# STATO MAGGIORE DELL'ESERCITO

Ispettorato delle Trasmissioni

Nº 214

442

# STAZIONI RADIO AN/GRC - 3-4-5-6-7-8

ISTRUZIONE PER OPERAI

**FIGURE** 



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# **STAZIONI RADIO AN/GRC - 3- 4-5-6-7-8**

ISTRUZIONE PER OPERAI

**FIGURE** 

### Approvo la presente istruzione per operai

"Stazioni radio"

AN/GRC - 3 - 4 - 5 - 6 - 7 - 8 -(figure)

Roma, li Febbraio 1970

L'ISPETTORE DELLE TRASMISSIONI
(Gen. C.A. Sergio GIULIANI)

# NOTE E GLOSSARIO PER FACILITARE LA LETTURA DEGLI SCHEMI E DELLE SCRITTE

#### - A -

+ A - Tensione d'accensione filamenti.

ADJ - Regolazione.
ADJUST - Regolazione
A F - Bassa frequenza

AFC - Controllo automatico frequenza

ALL - Tutto e tutti
AMPLIFIER - Amplificatore
ANT. - Antenna
AUDIO - Bassa frequenza

AUDIO - Bassa frequenza

AUX - Ausiliario

A C - Corrente alternata (c.a.) o componente alternata.

#### - B -

+ B - Tensione anodica BALLAST - Stabilizzatore

BEAT (Osc.) - Oscillatore di note-di battimento

BELL - Suoneria

BIAS - Polarizzazione

BOARD - Basetta
BOTTOM - Inferiore
BOX - Scatola

#### - C -

- C - Tens. polarizzazione di griglia

C.... - Condensatore

CAL. - Calibrazione-taratura
CALIBRATE - Calibrazione-taratura

CH - Canale
CHANNEL - Canale
CHART - Tabella
CIRCUIT - Circuito
CKT - Circuito
COM - Comune

CONN. - Connession - collegamenti

COMMON - Comune

CONT
CONTROL
CORD
COUPLING
CX
- Comando - controllo
Controllo - comando
Controllo - comando
Controllo - comando
Controllo - comando
Controllo - Cavo - cordone
Controllo - Cavo - cordone

#### - D -

DETENT (VERNIERS) - Vernieri - compensatori

DIAL - Indice - quadrante
DISCRIMINATOR - Discriminatore

- DRIVER - Pilota (dell'amplif. di potenza)

DUPLEX - Duplice

DE-EMPHASIS - Attenuazione delle note più alte della

bassa frequenza

D C - Corrente continua (c.c.) o componente continua

- E -

EACH - Ciascuna
EAR - Ascolto

EARPHONE - Padiglione telefonico

EDGE - Orlo-parete

EQUALIZING - Di equalizzazione

EXT - Esterno

- F -

F.... - Fusibile

FIELD - Campale (funzionamento)

FIL. - Filamenti
FILAMENT - Filamenti
FILTER - Filtro

FIXED - Non variabile-fisso

FROM - Dal. . . . es. from rec. RF Ampl. V 1

dall'amplif. di ric. a RF V 1

FRONT - Fronte-parte frontale

FUSE - Fusibile

• G -

GND - Massa
GRID - Griglia
GROUND - Massa

```
- H -
                      - Cuffia - microfono
Н . . . . .
HARM.
                      - Armonica
                      - Armonica
HARMONIC
                      - Microtelefono
HANDSET
                      - Alta (potenza)
HIGH
                      - Tenere - mantenere (premuto)
HOLDON
                            - I -
                      - M. F.
IF
IF
                      - Se
IN
                      - Ingresso - entrata
IMPUT
                      - Ingresso
INSIDE
                      - Dentro
                      - Interfono
INT.
                            - J -
                      - Presa (jack)
J. . . . . . . . .
JUMPER-
                      - Ponticello
                            - K -
                      - Mille-es.: 100 \text{ K} = 100.000
K
                            - L -
                       - Bobina
LAMP
                       - Lampada
                      - Comando - controllo - precedenza
LEAD
                       - Livello - volume
LEVEL
LIGHT
                       - Luce-illuminazione
LIMITER
                       - Limitatore
                       - Linea
LINE
LOAD
                       - Carico
LOCAL
                      - Locale - vicino
LOCK
                       - Bloccaggio - chiusura
LOUD SPEAKER
                       - Altoparlante
LOW
                       - Bassa (potenza)
                       - Altoparlante
LS.....
                            - M -
                       - Mille
M
                      - Strumento
                       - Mega
MEG
```

	-
METER	- Strumento
MIC.	- Microfono
MICROPHONE	- Microfono
MIXER	- Mescolatore
MOUTING	- Basedi montaggio
•	•
	- N -
NC	- Piedino non collegato
NE	- Lampada neon
NEUTRALIZING	- Di neutralizzazione
NOTE	• Nota
	• 0 -
0	- Relè
OFF	- Nere - Spento - esluso
	- Acceso - chiuso
ON	- Acceso - caruso - Solo
ONLY	- Funzionamento
OPERATE	
OR ORG	- O-oppure
	- Organizzazione
OSCILLATOR	- Oscillatore - Altro
OTHER	- Altro - Uscita
OUT	<u>-</u>
OVER (VOLTAGE)	- Relè termico
	- P -
P	- Spina (PLUG)
P.A.	- Amplif. finale potenza (RF)
PART OF	- Componente del
PHONE	- Cuffia
PIN	- Piedino
PLATE	- Placea
PRE-EMPHASIS	- Esaltazione delle note più alte della
	bassa freq.
POS.	- Posizione
POSICTION	- Posizione
POWER	- Alimentazione-alimentatore-potenza
PRESET	- Preselezione
PRI	- Primario (di trasformatore)
PUSH TO TALK	- Premere per parlare (funzionamento in
TOOK TO TAPE	semplice)
	sembiree)

- Alimentazione - potenza PWR - R -- Resistenza R.... - Ricezione-ricevitore RCVR - Reattanza, mod. a reattanza REACTANCE - Dietro - parte posteriore REAR - Ricezione REC - Ricezione RECEIVE - Raddrizzatore RECT. - Raddrizzatore RECTIFIER - Rosso RED - Lontano REMOTE - Ritrasmissione RETRANS - Ritorno (chiusura di un circuito) RETURN RF - Radio freg. - S -- Abbreviazione di commutatore (SWITCH) S.... - Griglia schermo SCREEN - Secondario (di trasformatore) SEC - Sezione SEct. - Sezione SECTION - Vedere SEE - Sensibilità SENSITIVITY - Eccitazione in serie (vibratore) SERIES-DRIVE - Apparato SET - Eccitazione in parallelo (vibratore) SHUNT-DRIVE SIDETONE - Autocontrollo - Segnale SIGNAL - Zoccolo SOCKET - Non usato - disponibile - di riserva SPARE - Altoparlente SPEAKER STAGE - Stadio STRAPPING - Ponticello - Alimentazione - alimentatore SUPPLY SWITCH - Commutatore - T -

- Trasformatore

- Tavola - tabella

T . . . . . .

TABLE TANK

TEL	- Telefono				
TENTHS	- Decine				
TERM	- Terminale				
TERMINAL	- Terminale				
TO	- Al (es.: TO FIL METER POS 2 =				
	allo strumento di misura del filamento, po-				
	sizione 2).				
TOP	- Parte superiore (di sopra)				
TR	- Trasmissione				
TRANS	- Trasmissione				
TRANSMITTER	- Trasmettitore				
TUBE	- Valvola				
TUNE	- Sintonia				
TUNING	- Sintonia - sintonizzatore				
	- Ú -				
FT	- Micro es.: UF=microfarad; UH=microhenry				
U	- Non stabilizzata (tensione-corrente)				
UNREGOLATED	- Mou stabilizzata (tensione-contente)				
	- V -				
V	- Valvola				
VAR.	- Variabile				
VHE -	- Veicolo-veicolare				
VIBR	- Vibratore				
VIEW	- Visto-veduta				
VOLTAGE REGULATOR - Stabilizzatore di tensione					
	- W -				
WIRE SIDE	•				
VIEW OF	- Visto dal lato dei collegamenti (cablaggio).				
,					
	- X -				
X	- Valvola (se vicino alla valvola)				
X	- Relè (se vicino al relè)				
XMTR	- Trasmissione - trasmettitore				
XTAL	- Quarzo - cristallo				

\_\_\_\_\_

1st = primo

2<sup>d</sup> = secondo

3<sup>d</sup> = terzo

4<sup>th</sup> = quarto

#### NOTE:

- 1-Se non altrimenti specificato, tutte le resistenze sono in Ohm e i condensatori in picofarad.
- 2-Sui commutatori rotanti, i rotori sono distinti da lettere: A.B.C. ecc., i contatti fissi sono distinti da lettere e numeri. Le lettere indicano i contatti ai quali il rotore fa capo: i numeri la posizione dei contatti stessi.
- 3-Tutti i commutatori rotanti negli schemi elettrici sono mostrati dalla parte interna.



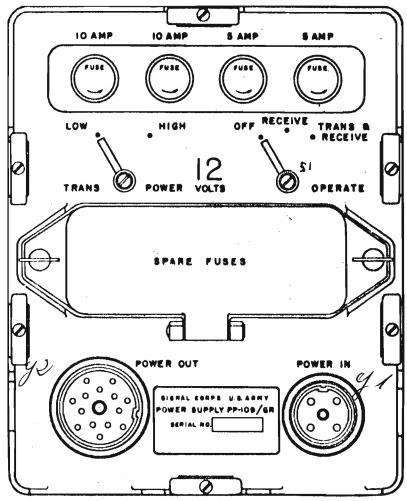
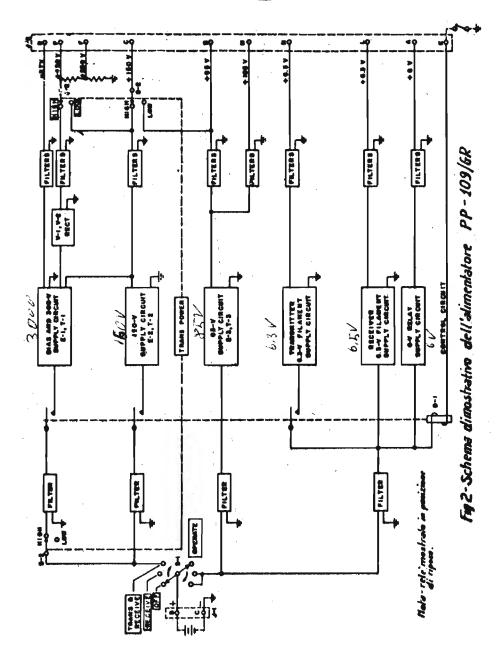
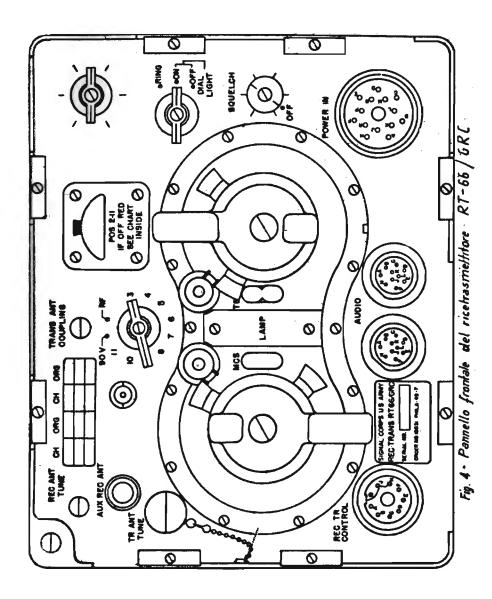


Fig.1-Pannello frontale dell'alimentatore PP+109/6R





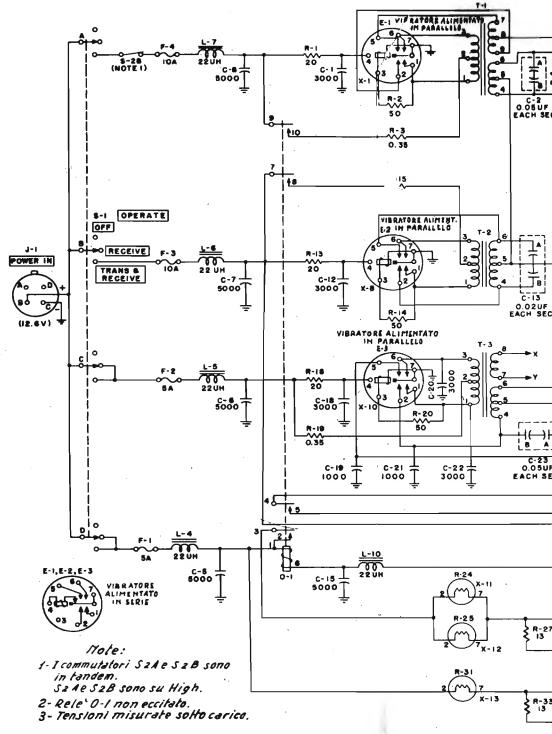
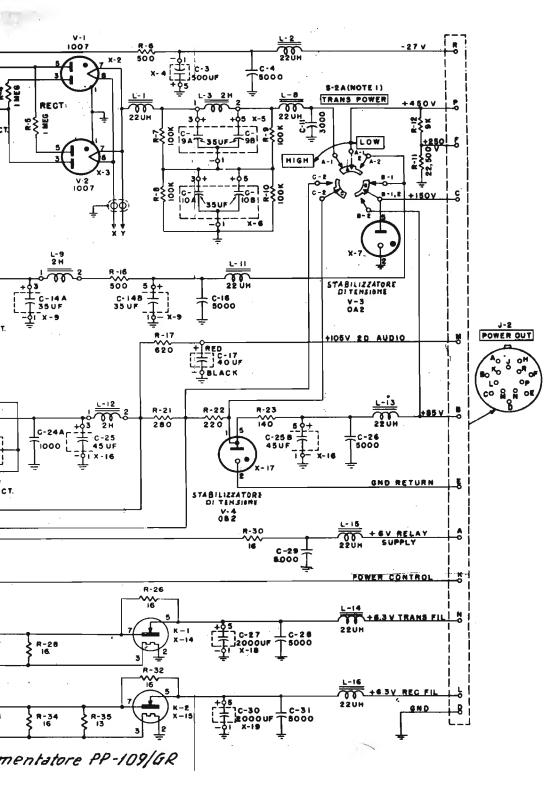
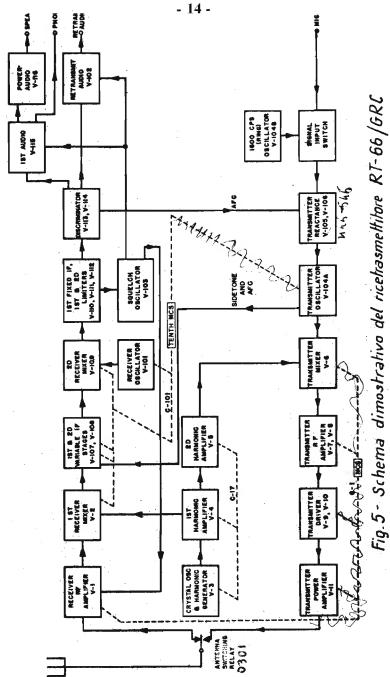
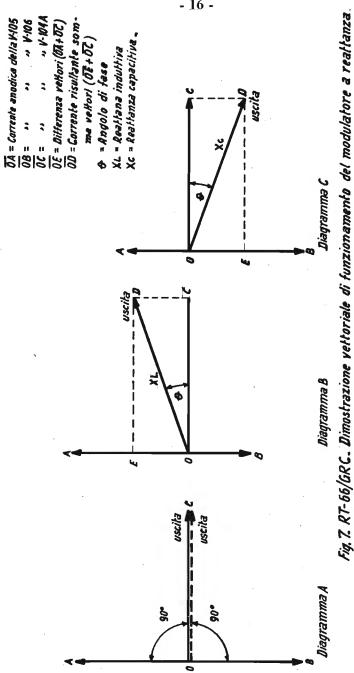


Fig. 3 - Circuito elettrico Ali





Fay. 6. RT-66/GRC. Lircuiti del micrafone, del modulatere è reattanza e dell'oscillatore di trasmissione.



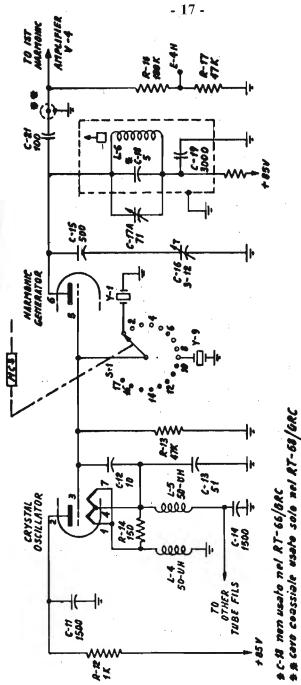


Fig. 8. RT-66/GRC. circuiti dell'oscillatore a quarzo e del generatore di armoniche

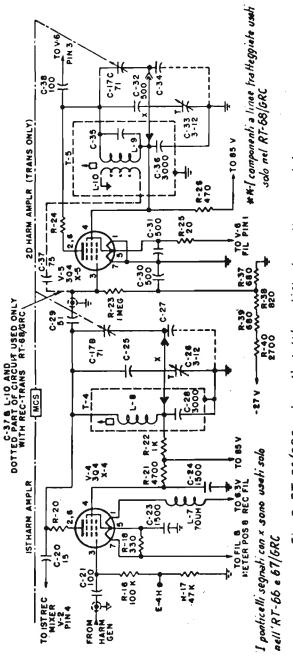


Fig. 9-RT-66/6RC; circuiti dell'amplificatore di armoniche.

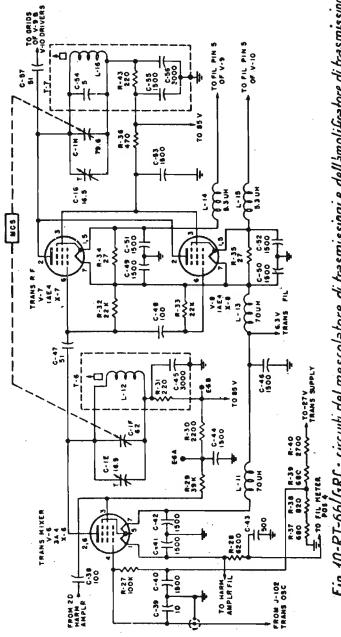
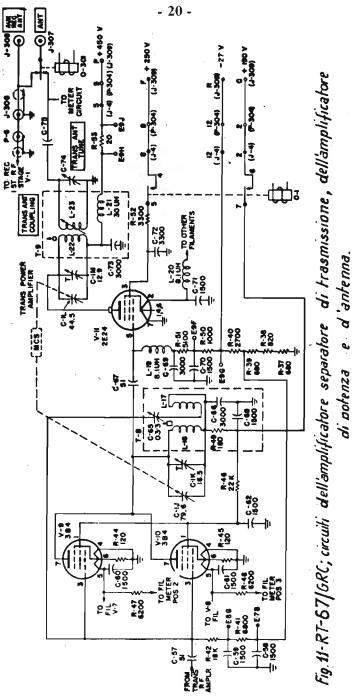
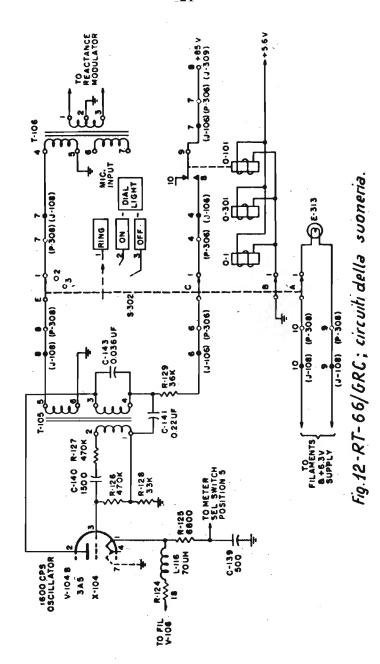
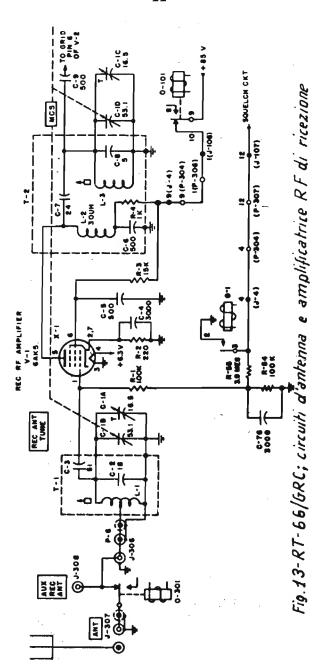
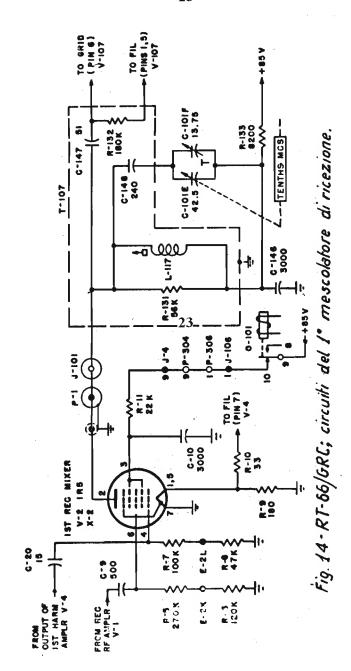


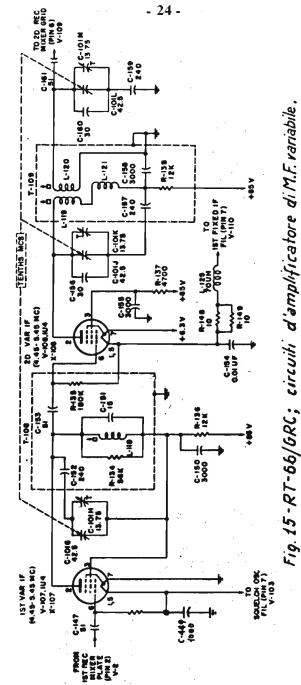
Fig. 10-RT-66/GRC; circulti del mescolatore di trasmissioni e dell'amplificatore di trasmissione











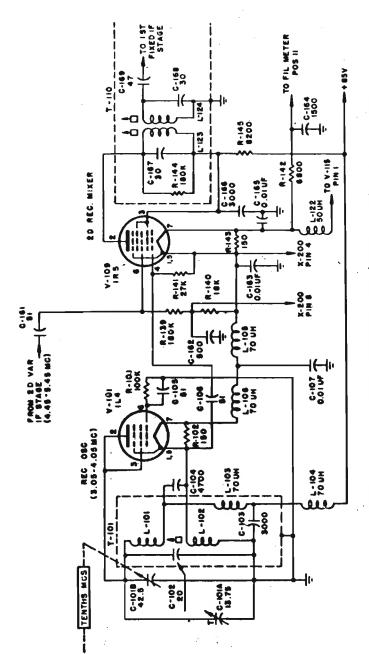
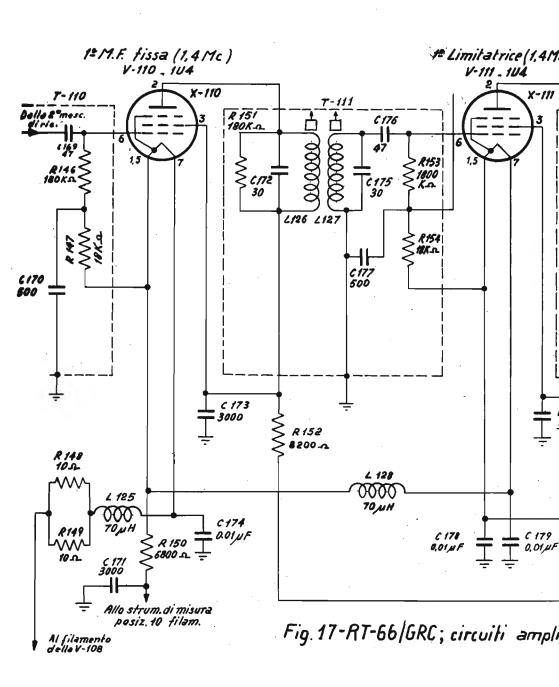
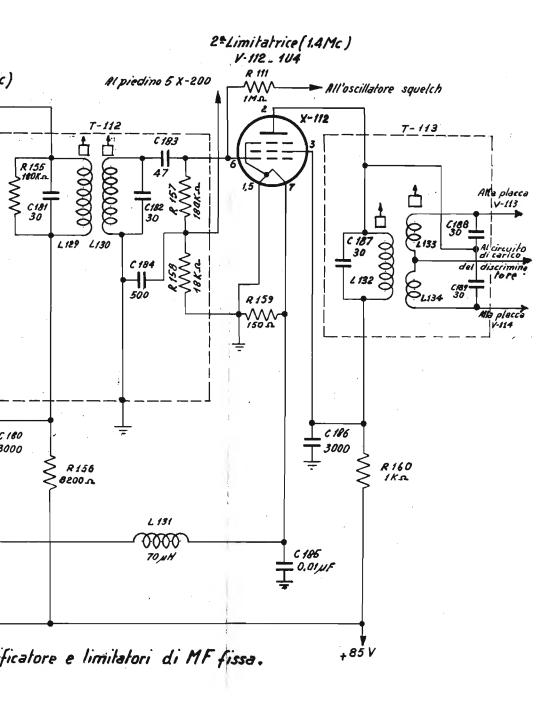


Fig. 16-RT-66/6RC; circuiti dell'oscillatore di ricezione e del 2º mescolatore.





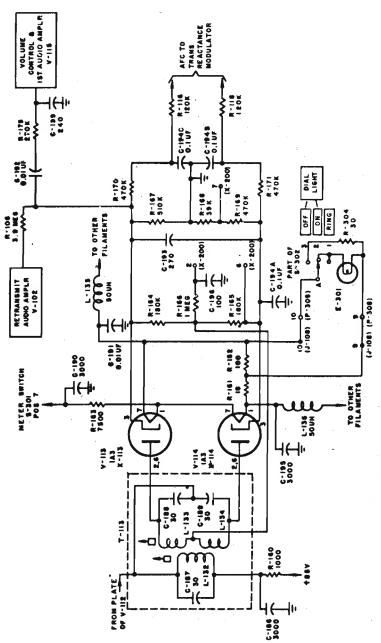
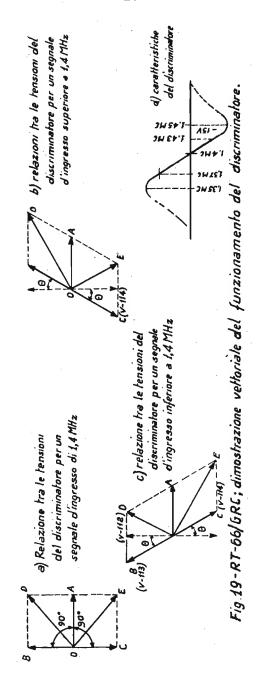
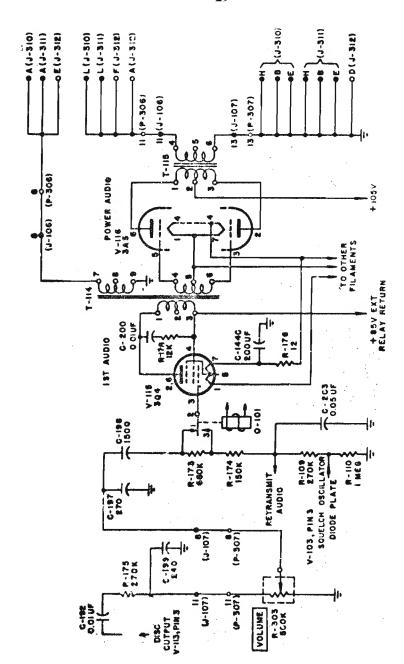
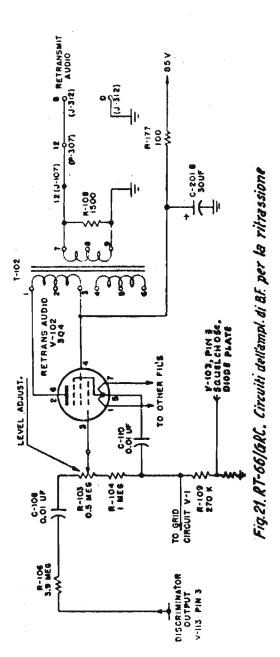


Fig. 18- RT-66/6RC; circuiti del discriminatore





di BF in ricezione. Fig. 20-RT-66/GRC; circuiti del 1º e 2º amplificatore



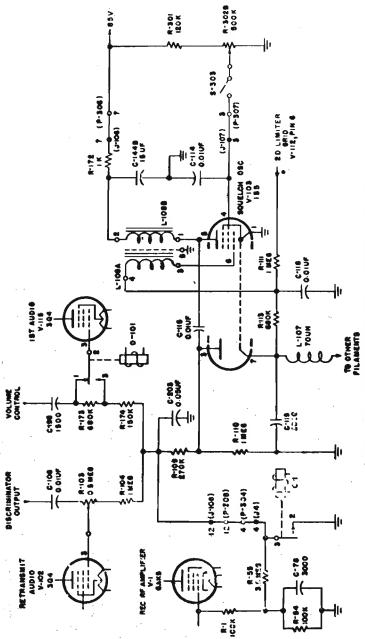


Fig. 22. RT- 66/6RC. Circuiti della squelch.

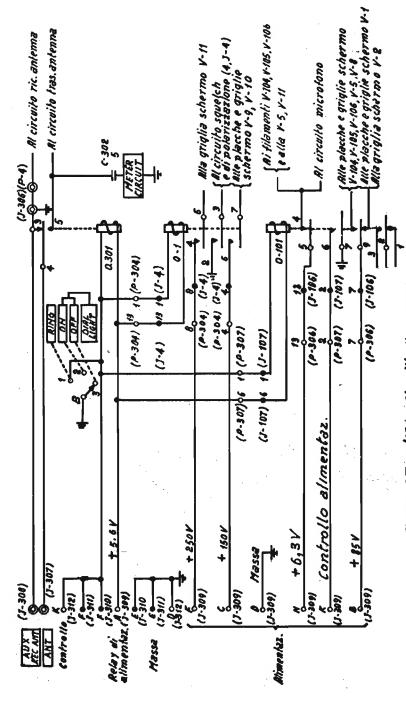


Fig. 23. RT-66/6RC. Circuiti di comando

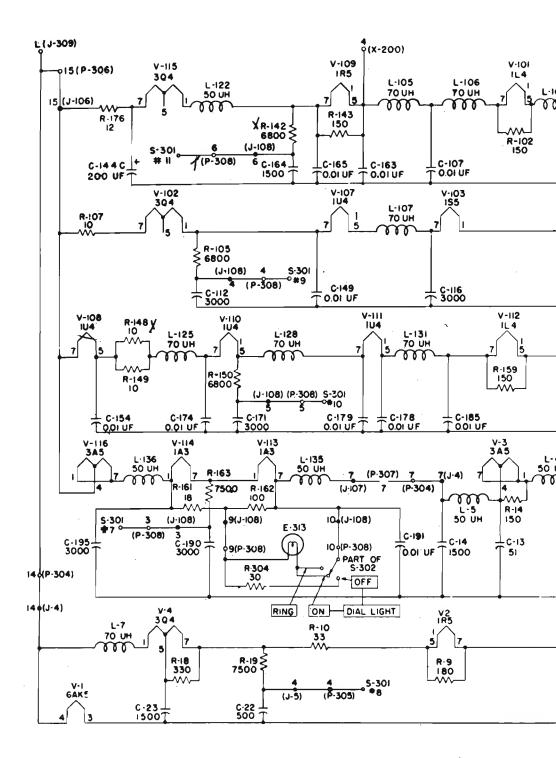
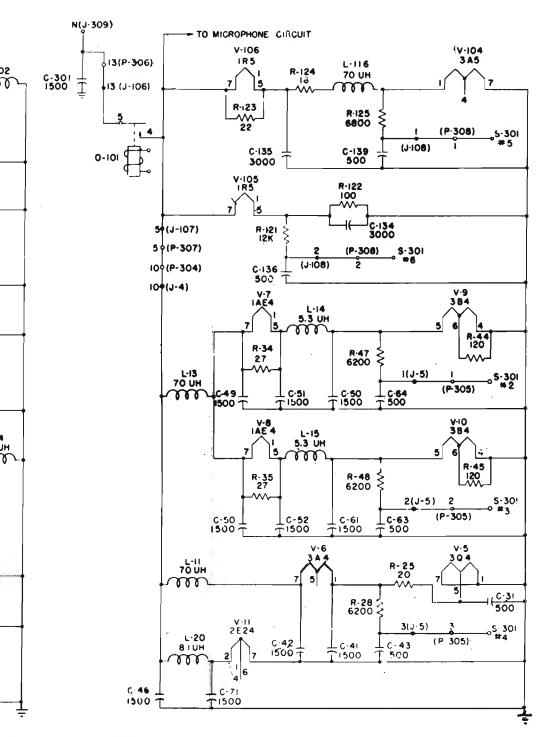


Fig. 24-RT-66/



GRC; circuiti dei filamenti.

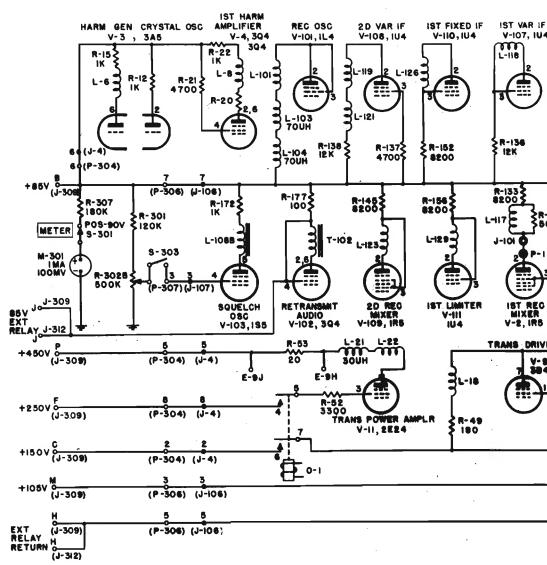
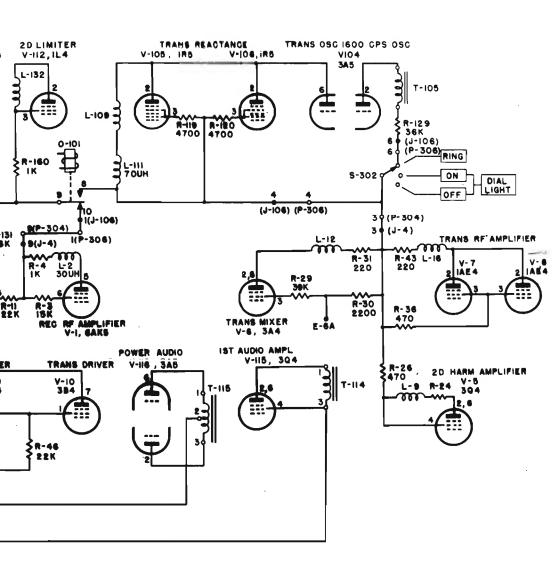


Fig. 25-RT-66/GRC; circuiti d'alimen



ntazione anodico e delle griglie shermo.

## Londizioni:

- 1- Misure attenute can voltmetro a 2000 a / V in assenza di segnali
- 2- Comando squelch su off.
- 3-Le letture in parentesi sono eseguite con pulsante del microfono pressato.

Il terminale K del J-312 va posto a massa se si deve eseguire una sola lettura.

- 4-le misure delle resistenze vanno eseguite con le valvale installate e futte le spine aconnesse.
- 5-Tulle le misure sono riferite ella massa.

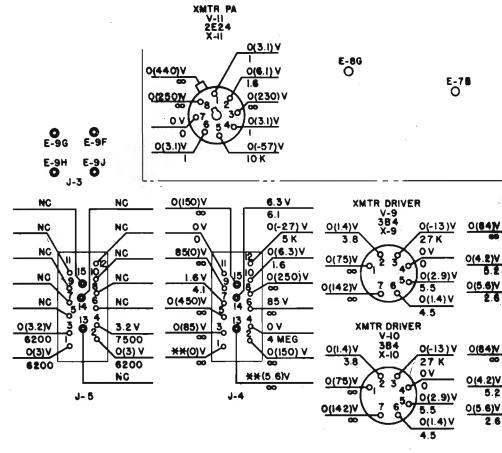
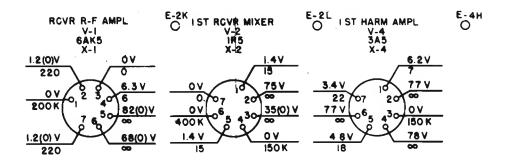
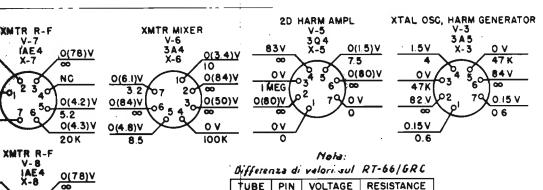


Fig. 26-RT-66/GRC; misur



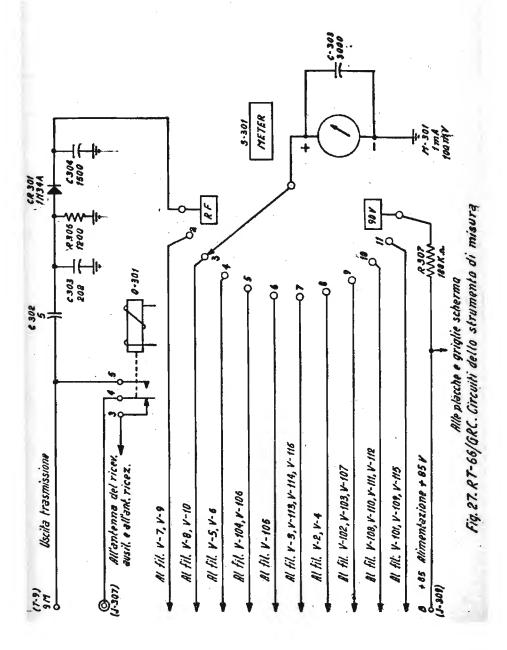
E68 E-6A O O



7 650 5.2 0(4.3)V 20 K

TUBE	PIN	VOLTAGE	RESISTANCE
V-103	ı	1.6	17
	3		510 K
	6		150 K
	7	3.0	23
V-107	ļ	1,5	59
			L

a delle tensioni e resistenze del telaio di P. F.



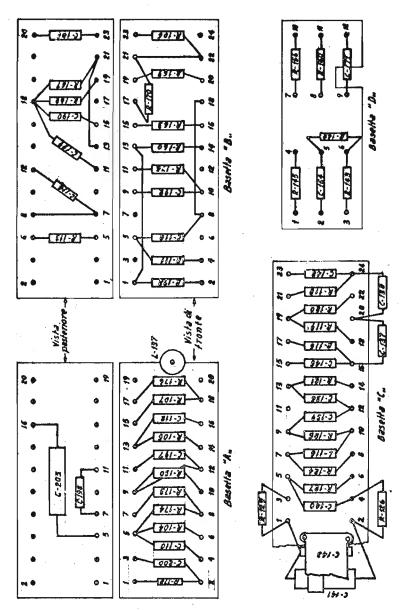


Fig. 28. RT-66/4RC. Basette terminali

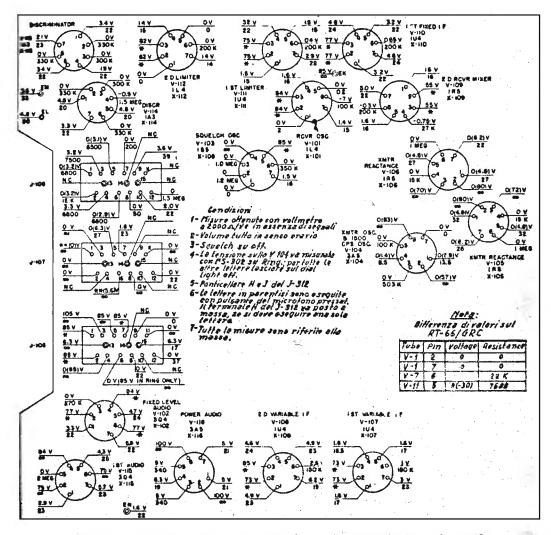


fig. 89. RT-66/GRC. Misura delle tensioni e resistenze nel telaio di MF

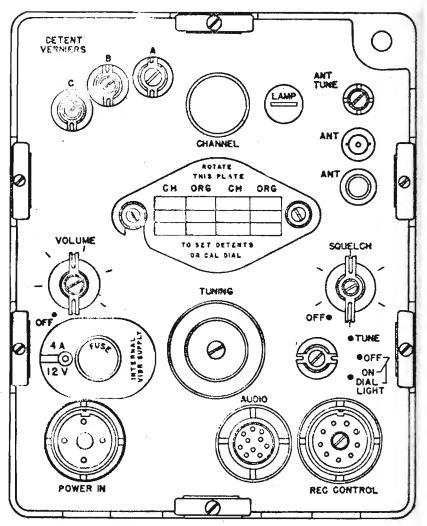


Fig. 30. R-108/GRC. Pannelle frontale del ricevitore

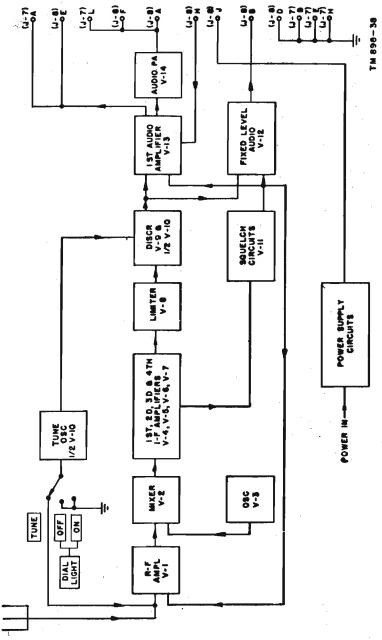
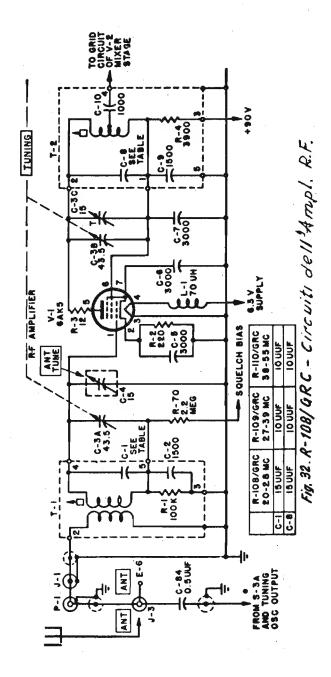


Fig.31. R-108/GRC. Schema dimostrativo



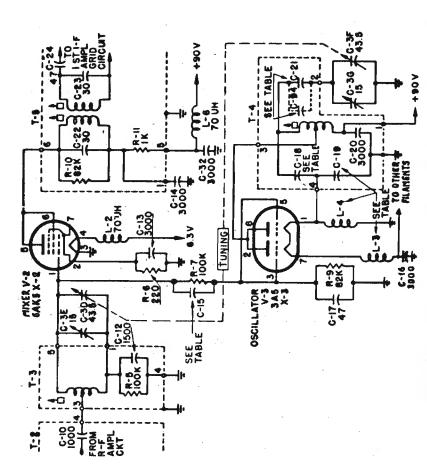


Fig. 33. K-108/6RE. Circulti dell'oscillatore variabile e del mescolatore

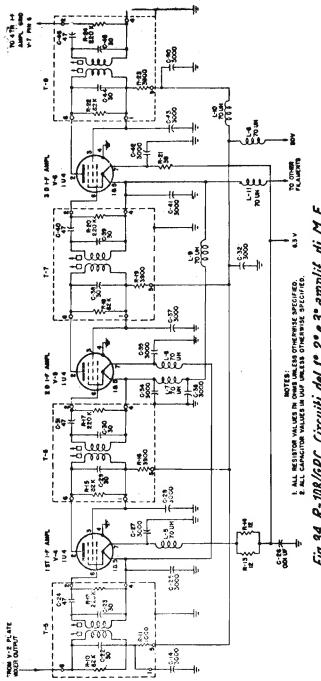
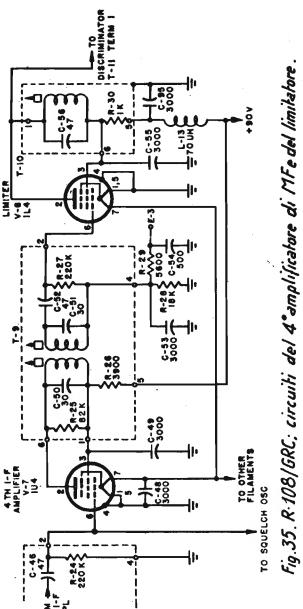
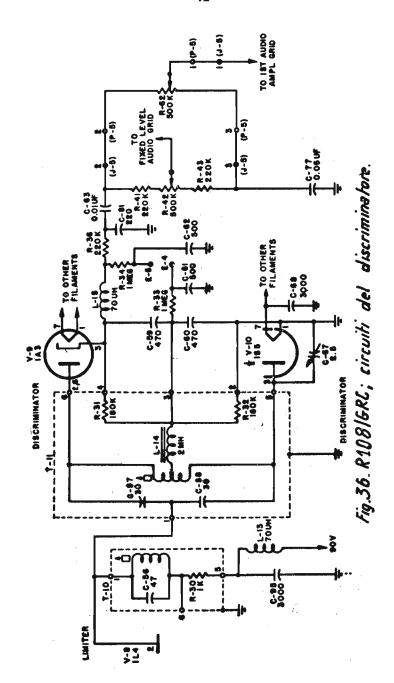
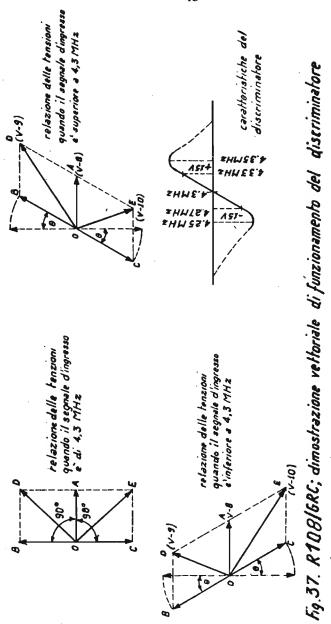
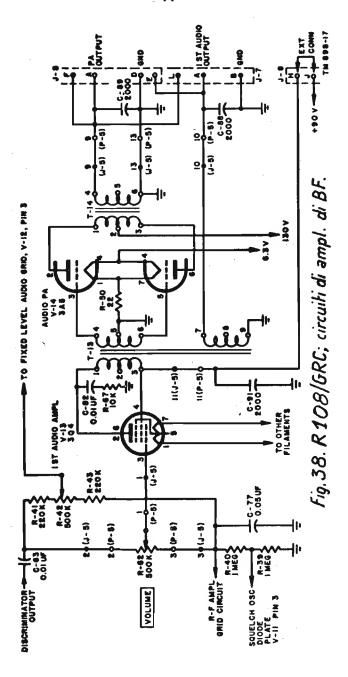


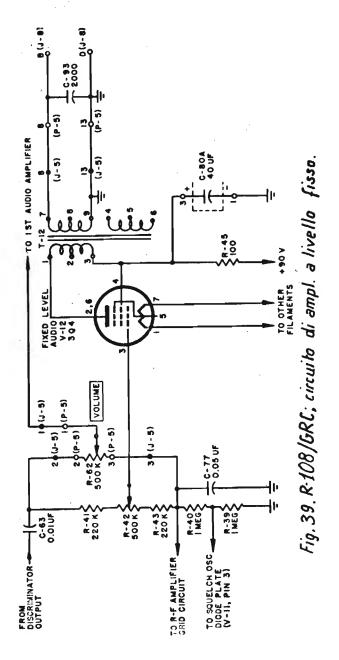
Fig.34. R-108/6RC. Circuiti del 1°, 2° e 3° amplif. di M. F.

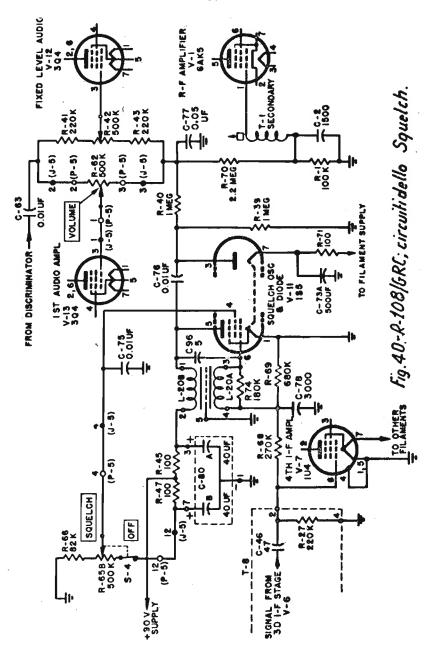


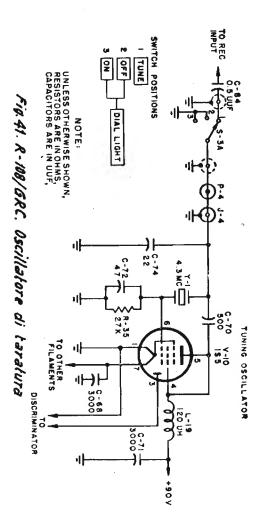


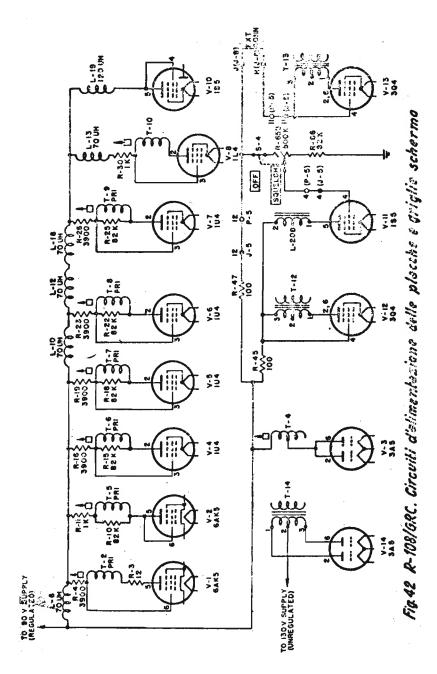












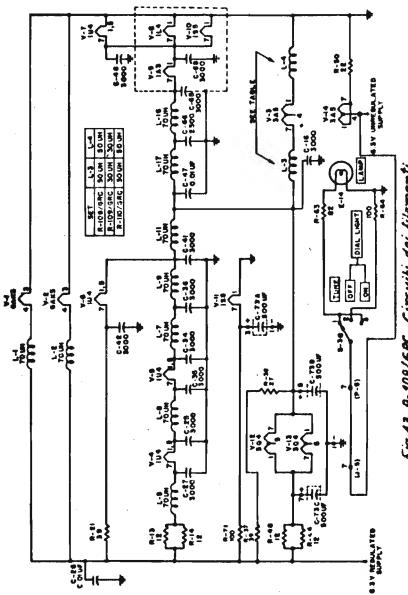


Fig. 43. R-108/6RC. Circuiti dei filamenti

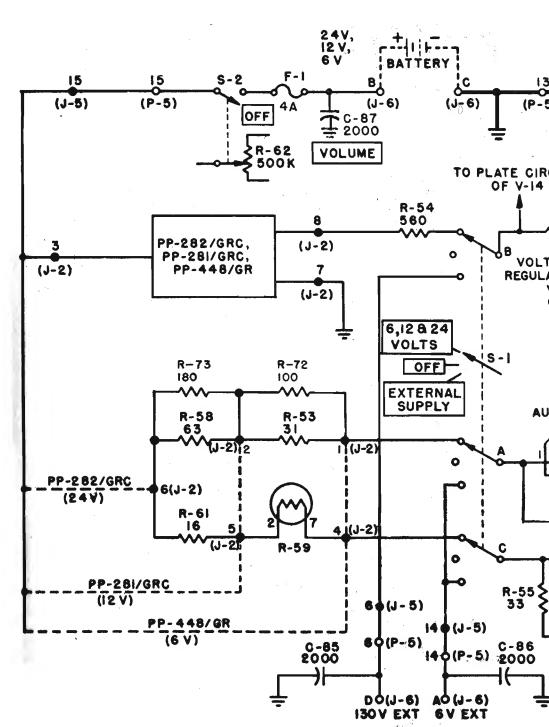
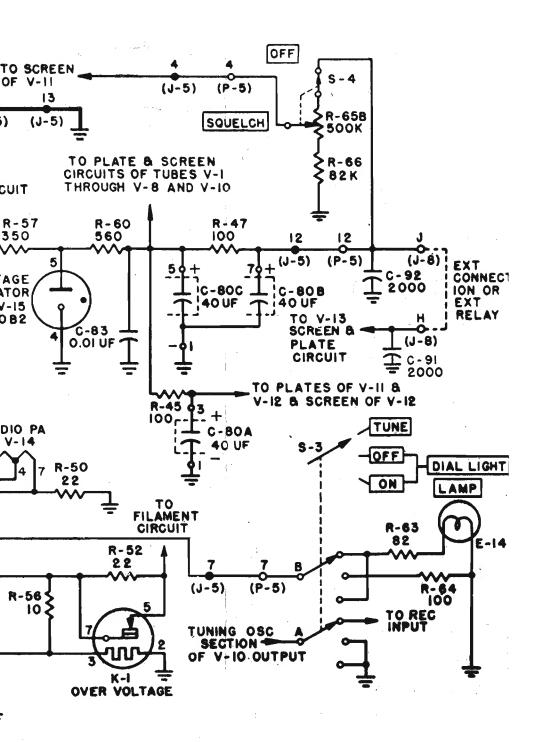
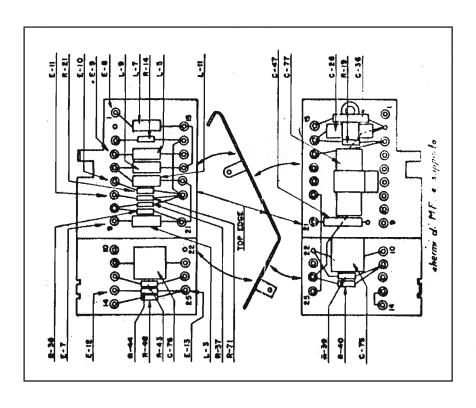


Fig. 44. R-108/ORC. Circuiti di





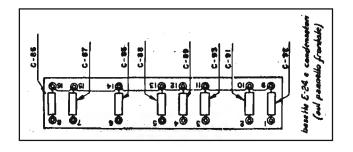
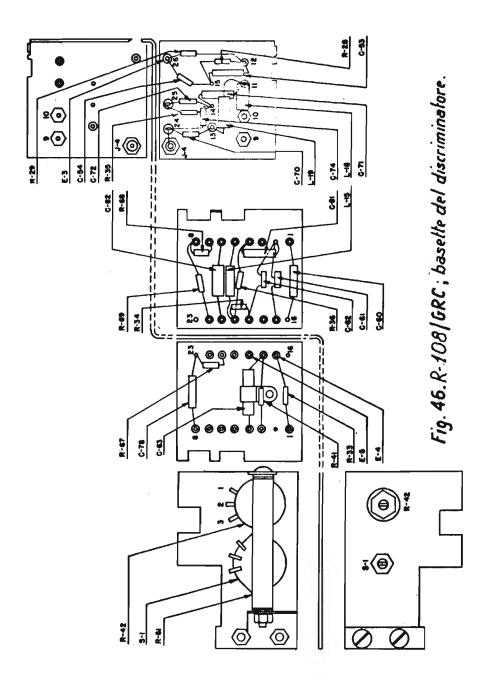
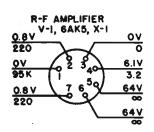
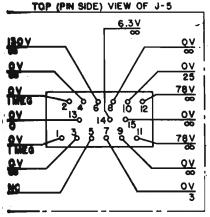
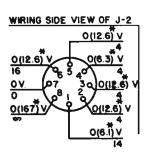


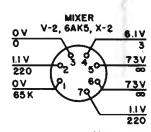
Fig. 45.R. 108/GRC; basetta terminale E-24 e basette di MF.





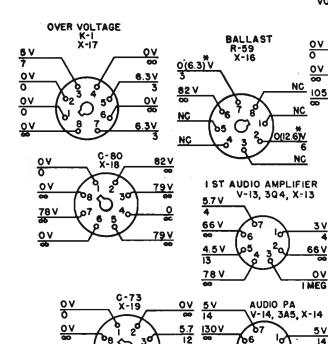






Note ( specifiche )

1-Tensioni culla V-11 misurate con lo squelch tutto 2-Tensioni alla R59 e J2 oltenute del il PP-281/G 3-Tensioni sulla V-10 ottenute con y-1 installato e S



<u>5.7 V</u>

<u>0V</u>

WIRING SIDE VIEW OF CHASSIS

<del>&</del>

3V 6.3 V

Fig.47- R-108 ; misura del

0 V 300

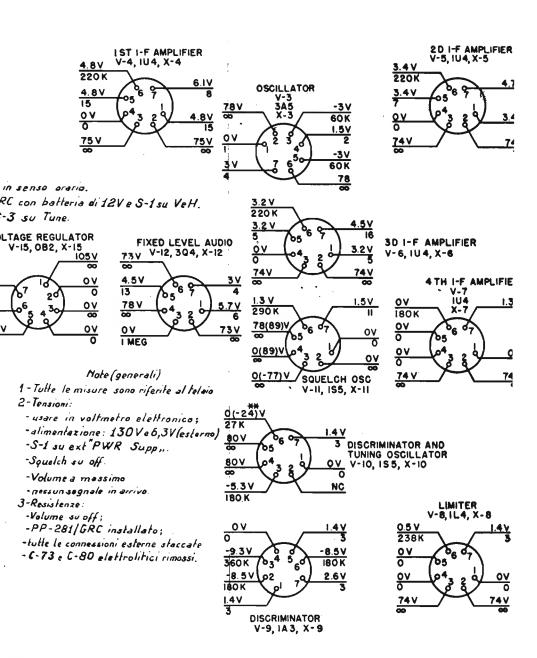
14

130 V

0 V 300

3<sup>2</sup>a

۵54



le tensioni e delle resistenze.

ъ<sup>7</sup>

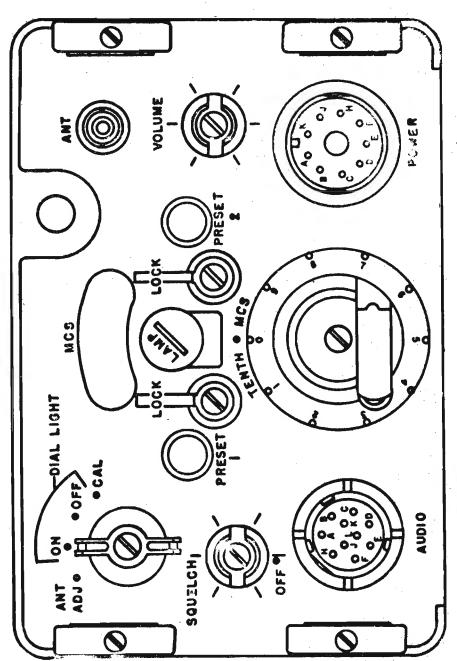


Fig. 48. Pannello del ricetrasmettitore RT-1U/uKL

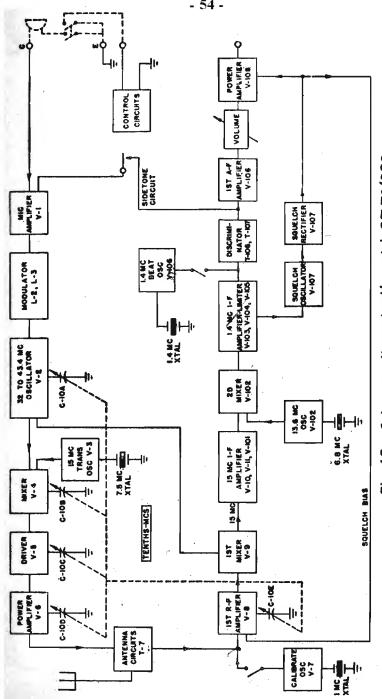


Fig. 49. Schema dimostrativo del RT-70/GRC.

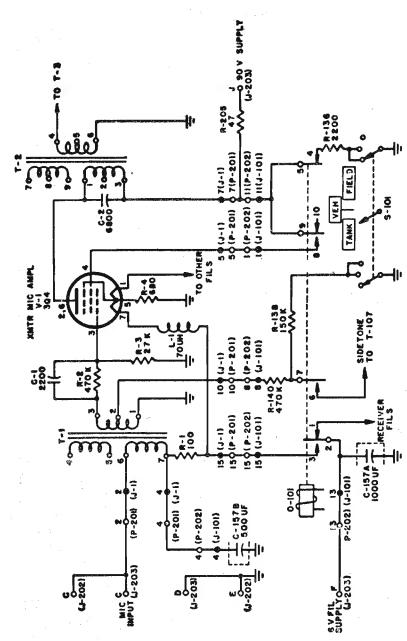
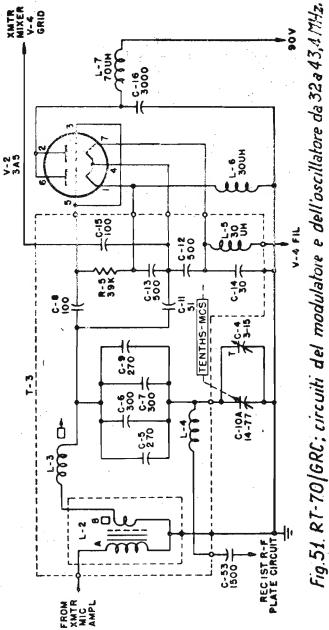


Fig. 50. RT-70/GRC; circuiti microfonici e di ampl. microfonica.



32 TO 434MC OSCILLATOR

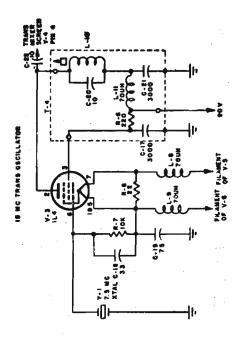
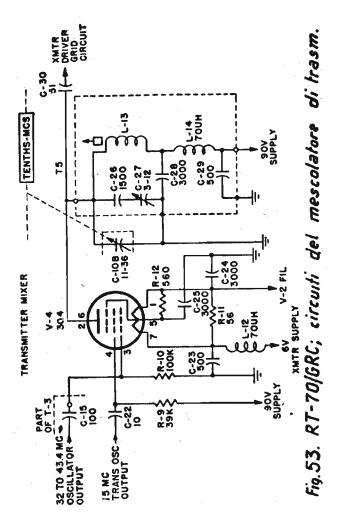


Fig. 52. RT-70/6RC; circuiti dell'oscillatore a 15 MHz.



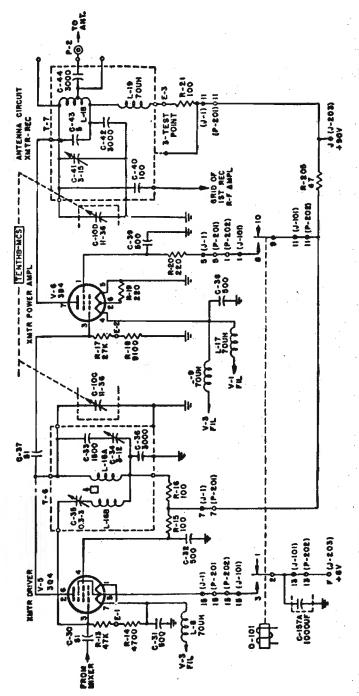
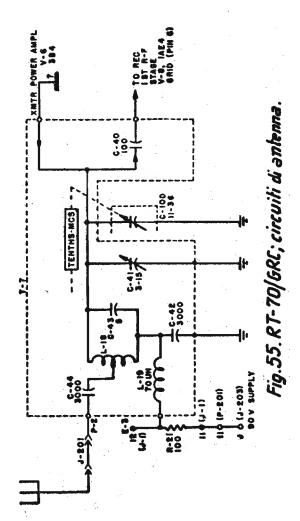
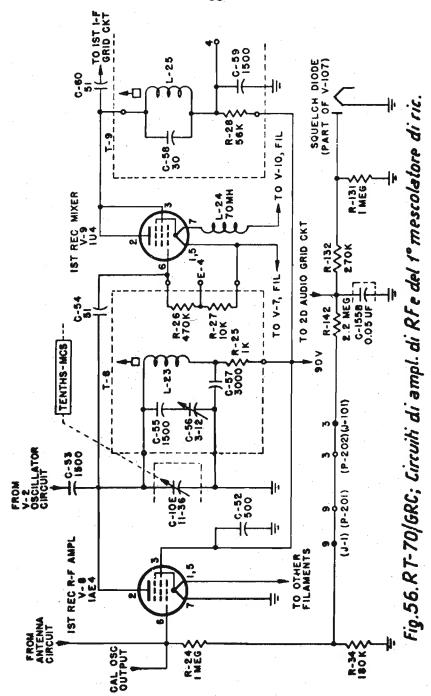
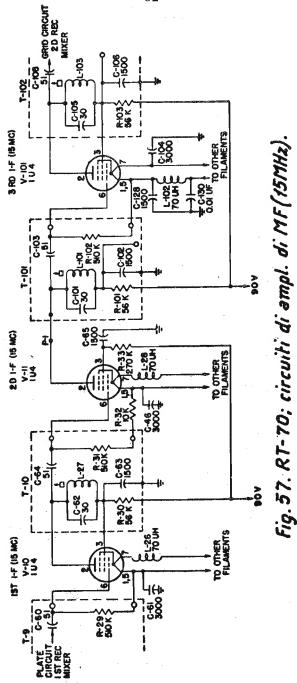
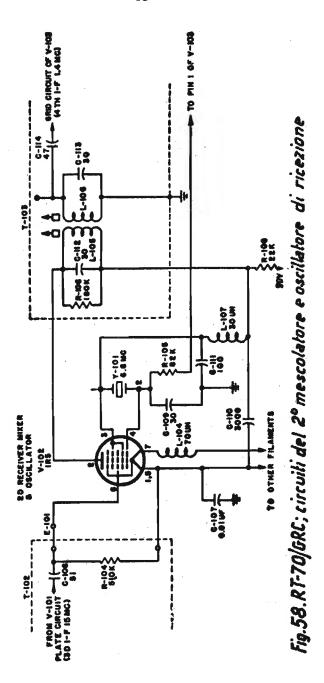


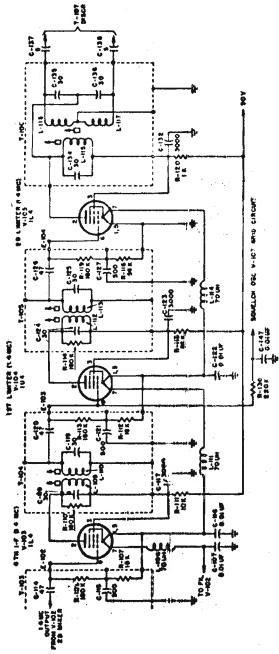
Fig. 54. RT-70/6RC; circuiti del preamplificatore e amplificatore di polenza di trasm.



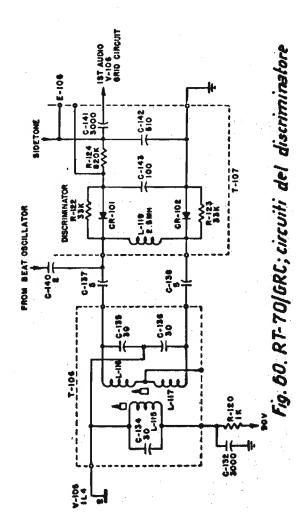








Fr. 59. RT-70/6RC; circuit di ampl. de MF/14/142/3 de limitazione



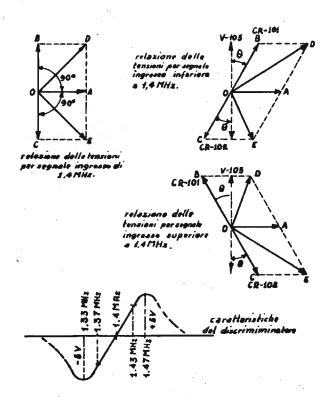


Fig. 61. RT-70/GRC; dimostrazione vettoriale di funzionamento del discriminatore.

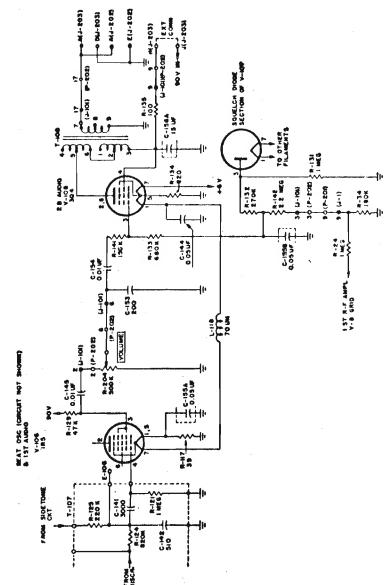


Fig. 62. RT-70/GRC; circuiti di amplificazione di B.F.

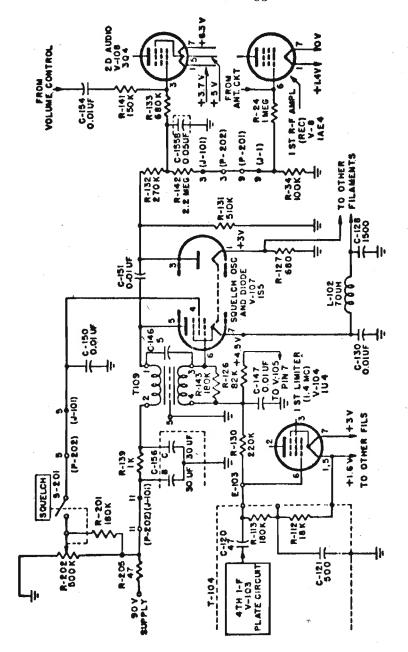
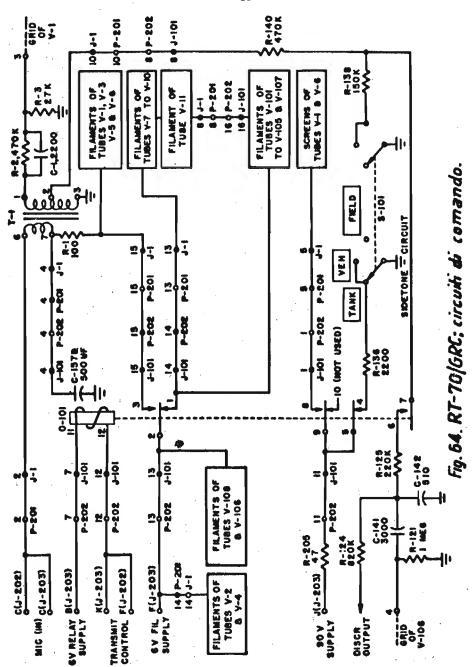


Fig. 63. RT-70/GRC; circuiti dello Squelch.



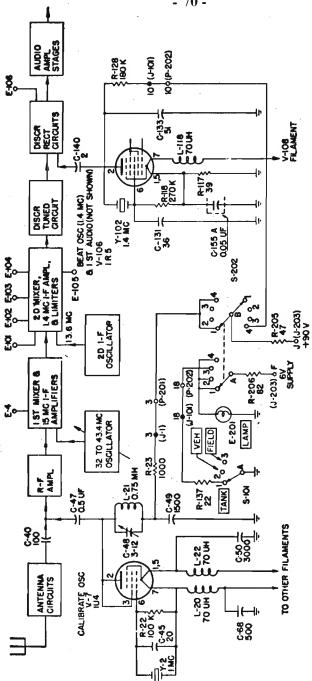
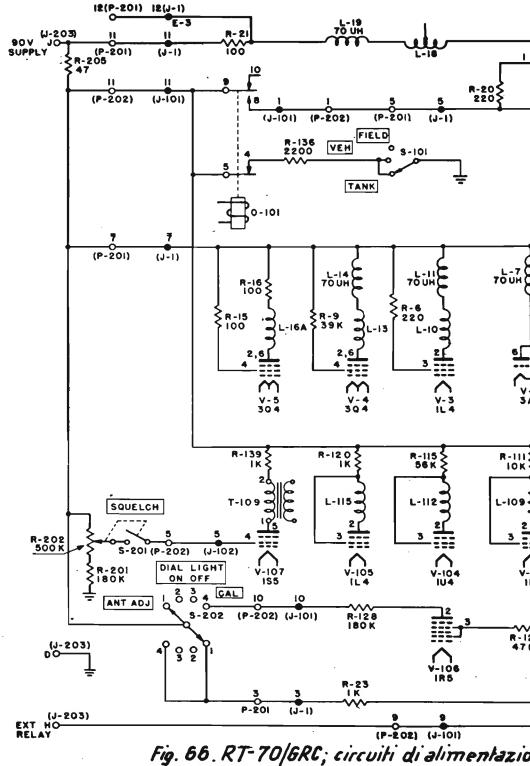
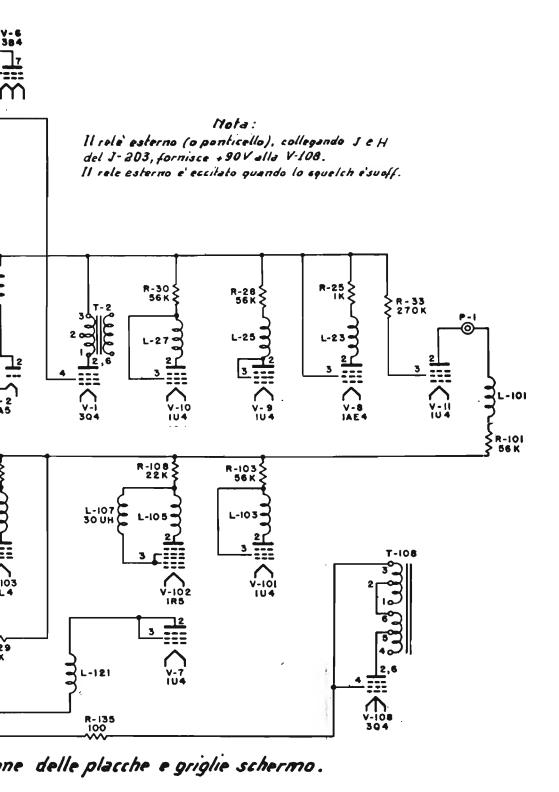
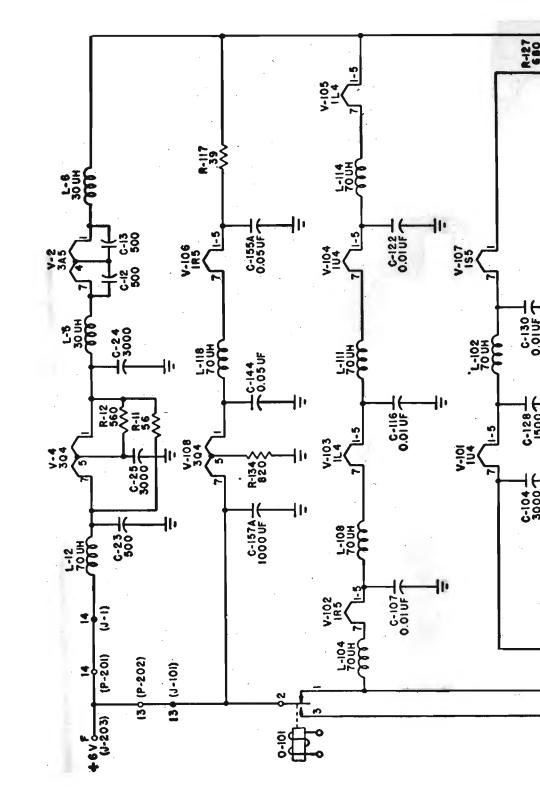


Fig. 65. RT-70/GRC; circuiti degli oscillatori di taratura.







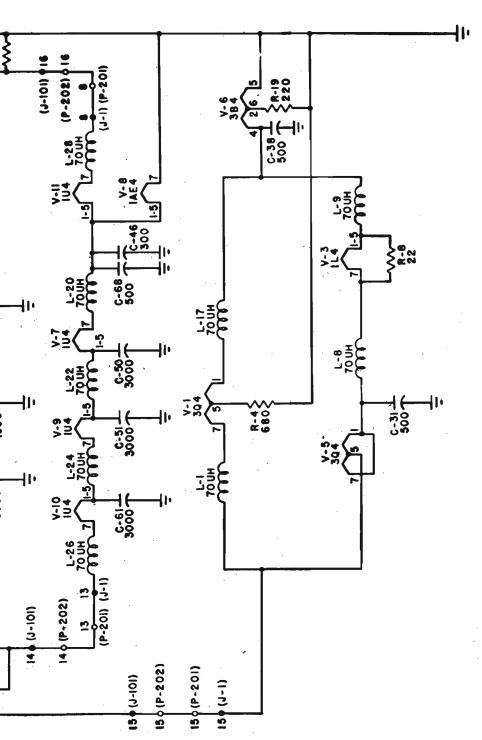
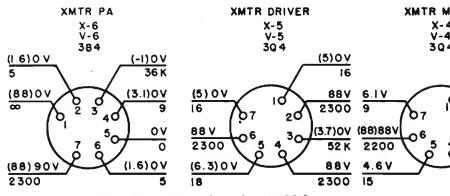
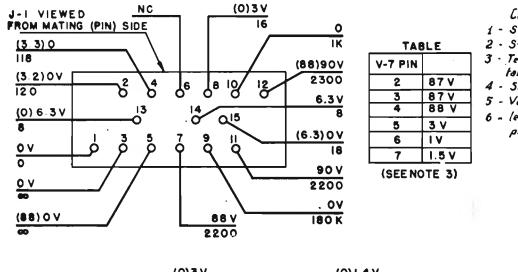


Fig. 67. RT-70/GRC; circuiti d'alimentazione dei filamenti.



ALL TUBE SOCKETS SHOWN FROM WIRING SIDE OF CHASSIS.

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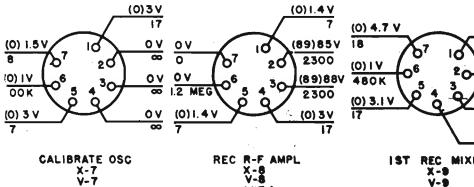
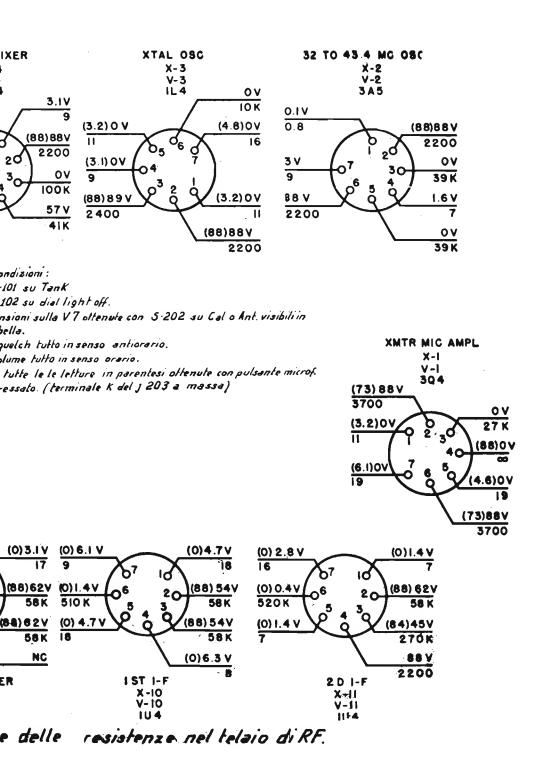
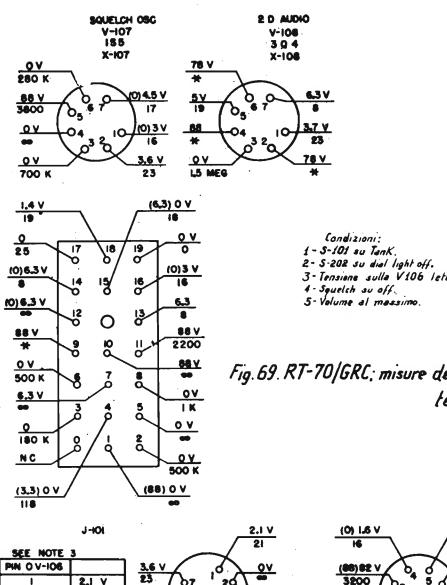
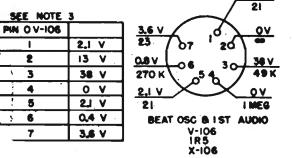
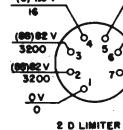


Fig. 68. RT-70/GRC: misura delle tensioni

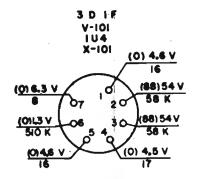






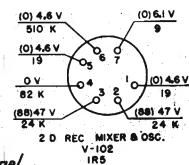


V-105 1L4 X-105



'a con S-202 su Cal (vedi tabella).

(0)1,2 V



X-102

elle tensioni e delle resistenze nel elaio di R.F.

> (0) 3.1 V 88 V (88) 49 V (88)49 V 58 K

280 K (O)-3V (88)46 V (D) 1,6 198 K 236 K 58 K (O) L5V (88)46V (O) 3 V 58 K (0) \$1 V (O) 1,6 V 16 I ST LIMITER TH L.F. V-103 V-104 104 X-103 " \*X-104

(O) L6 V

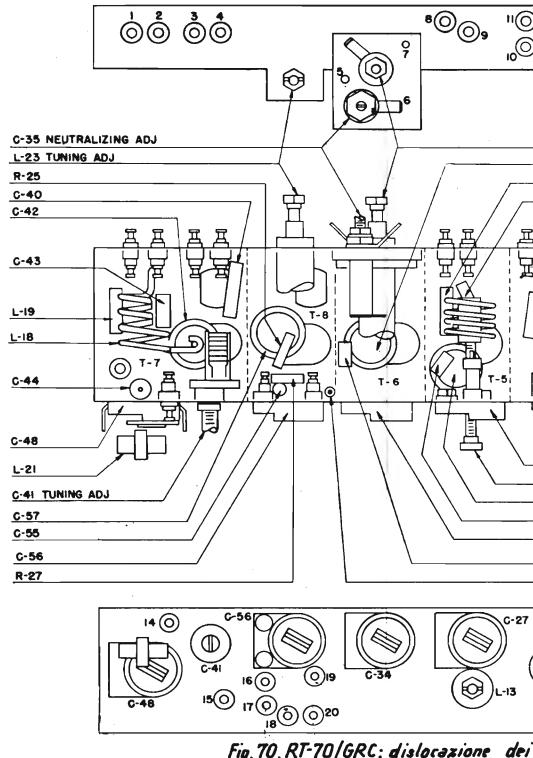
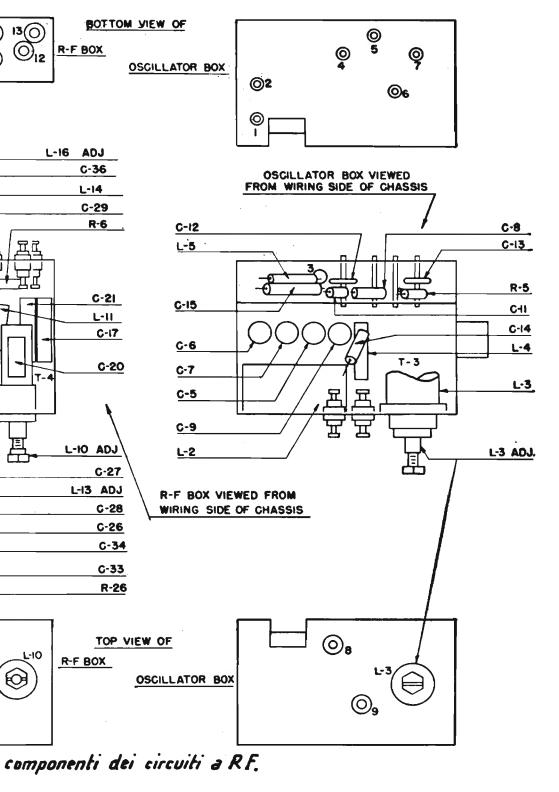
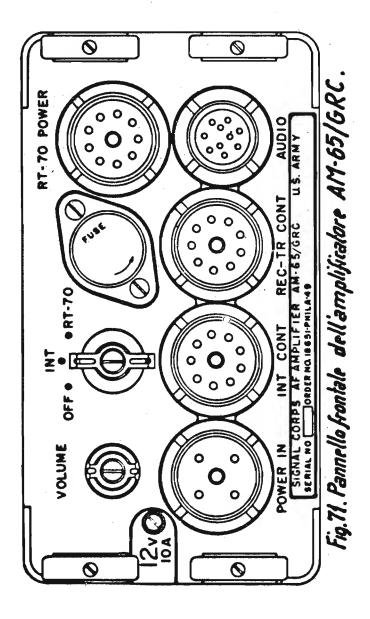
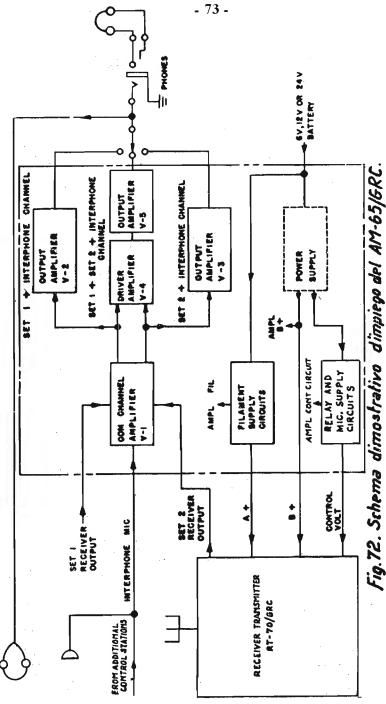
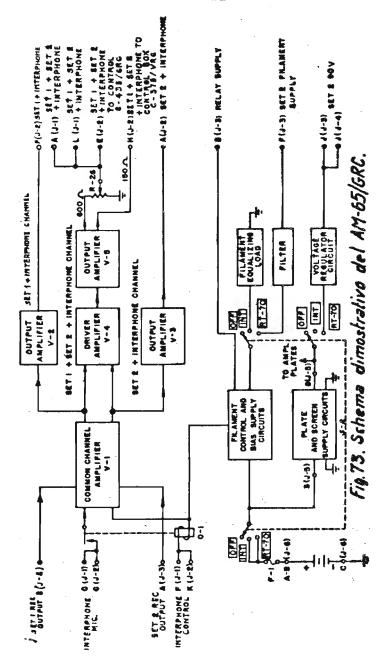


Fig. 70. RT-70/GRC; dislocazione dei









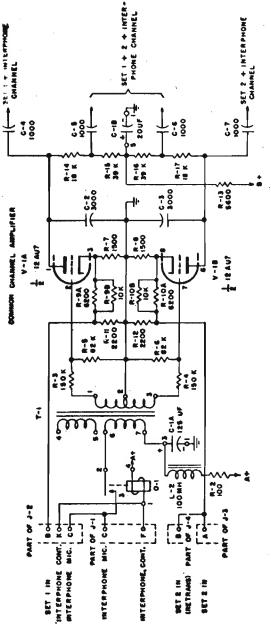
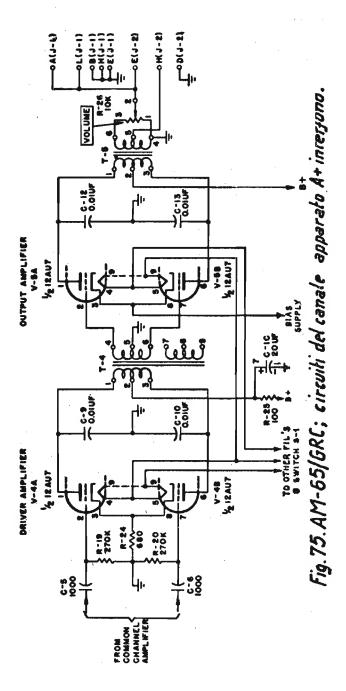


Fig. 74. AM-65/GRC; circuiti d'ingresso ed ampl. del canale comune.



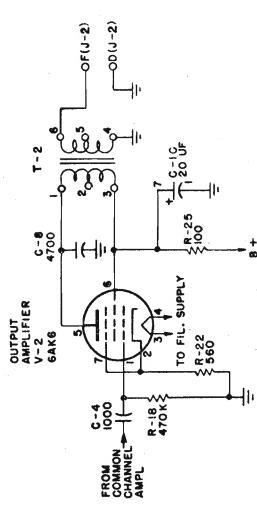


Fig. 76. AM-65/6RC; circuiti del canale apparato A+apparato B+interfono

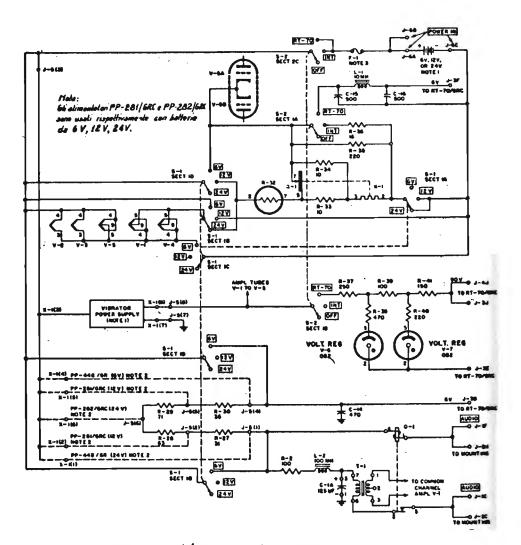
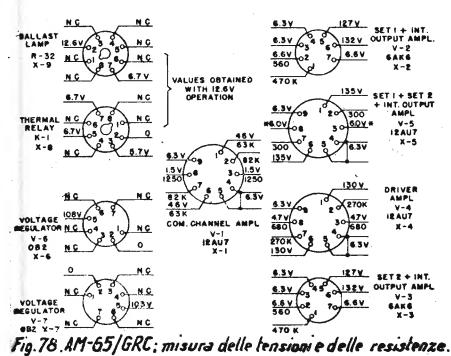
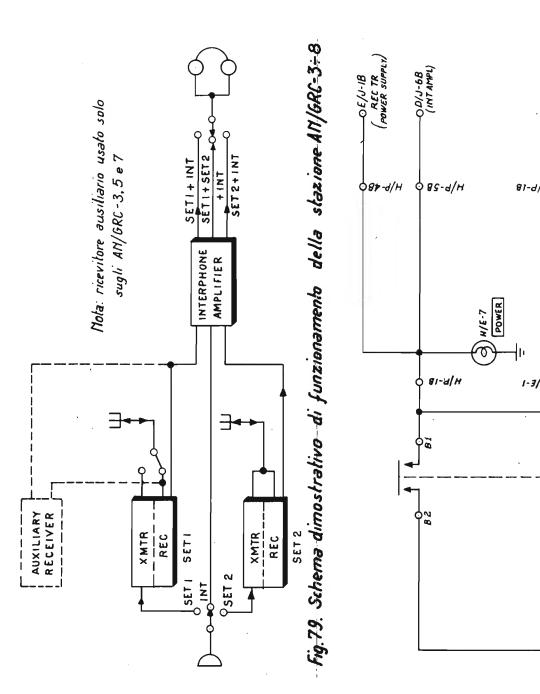


Fig. 77. AM-65/GRC; circuiti dell'alimentatore.



Nota

- Per le misure di tensione collegare L'RT-70 GRC a resistenze equivalenti
- Usare il voltmetro elettronico Porre 1'52 SURT-70



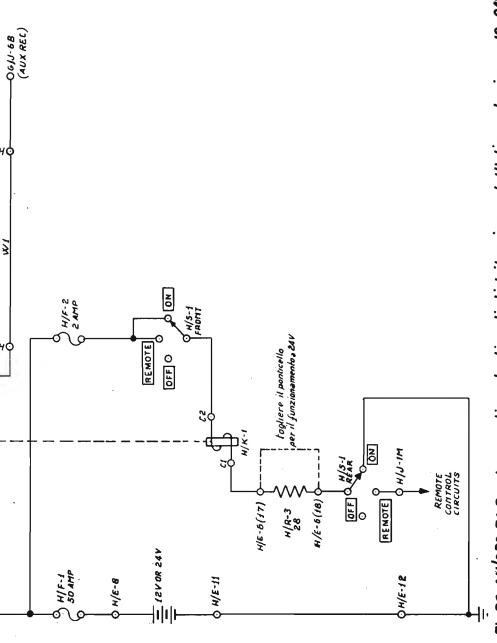
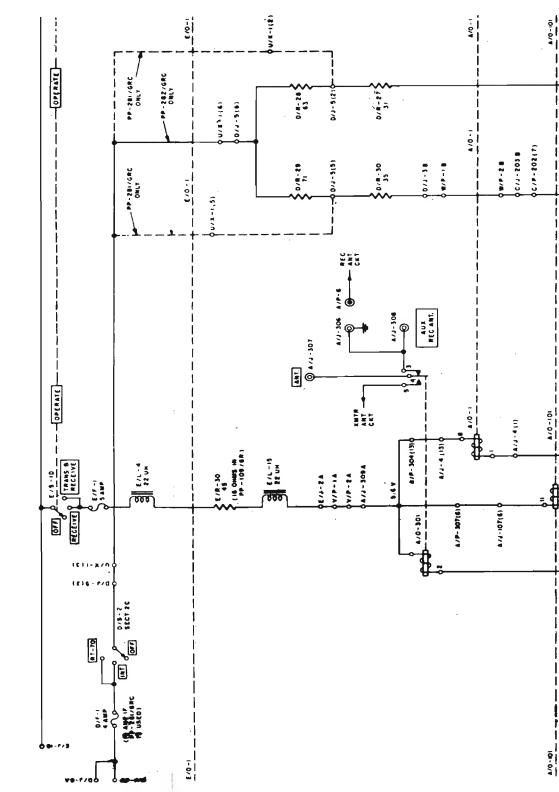


Fig.80-Att/6RC-3-8; shema dimostrativo di distribuzione dell'alimentazione a 12024V



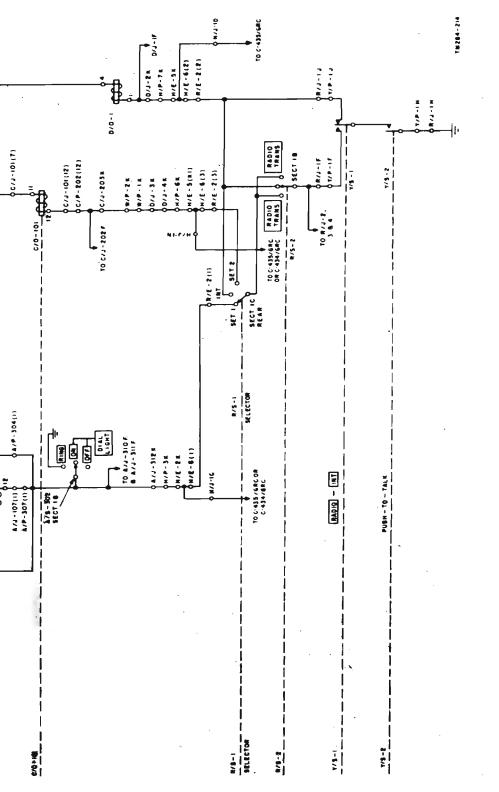
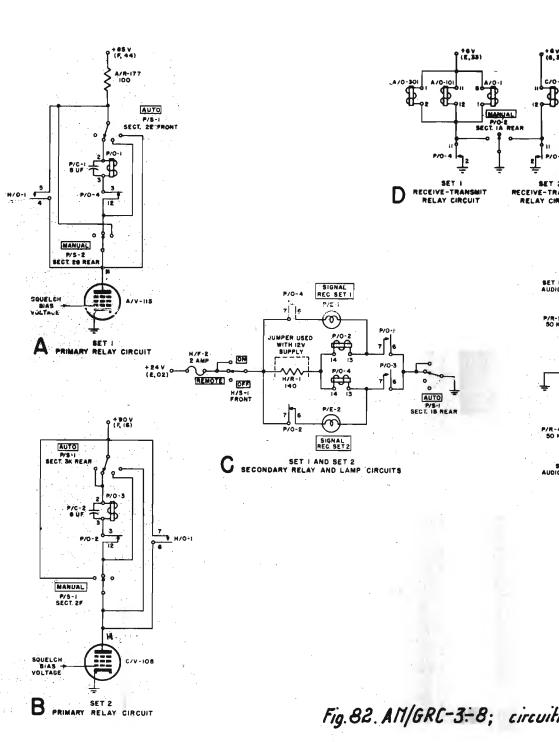


Fig. 81. NIJGRC. Distribuzione dell'alimentazione aicircuifi di comando dei relè



01 ^

7)

NSMIT

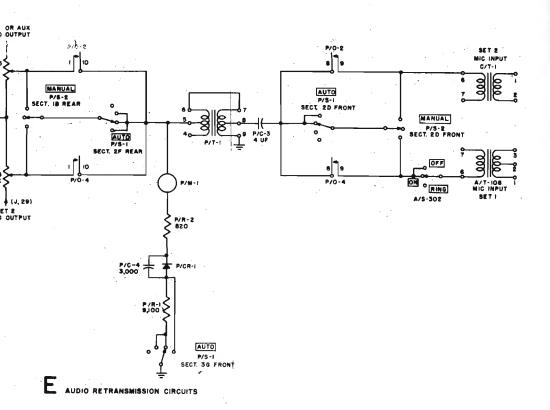
Note:

1-Comm. AUTO P/S-1 ha 4 posizioni ed e mostrato su posizione Retrans Le 4 posizioni sono: Off-Duplex-Retrans-Adjust meter.

2-Comm. MANUAL P/S-2 has posizioni ed e'mostrato su posizione Int. le 3 posizioni seno: Send Set 1- Int- Send Set 2.

3-La sigle tra parentesi come (F.44) nella sez. A indicano il punto delle coordinate nello schema generale di comando della ritrasmissione.

4-Icontatti di tutti irele sono mostrati in posizioni di riposo, ad eccezzione del rele H/O-1.



di ritrasmissione.

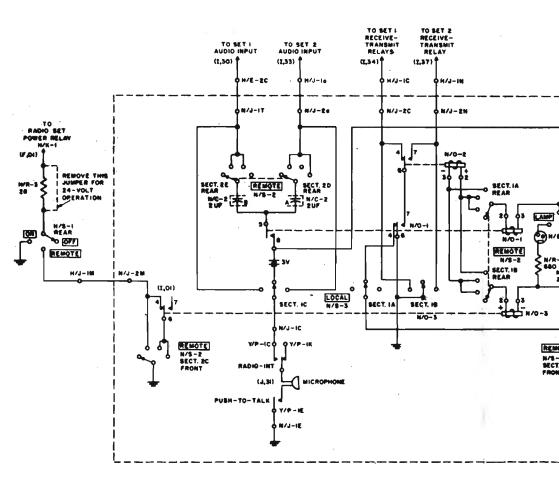
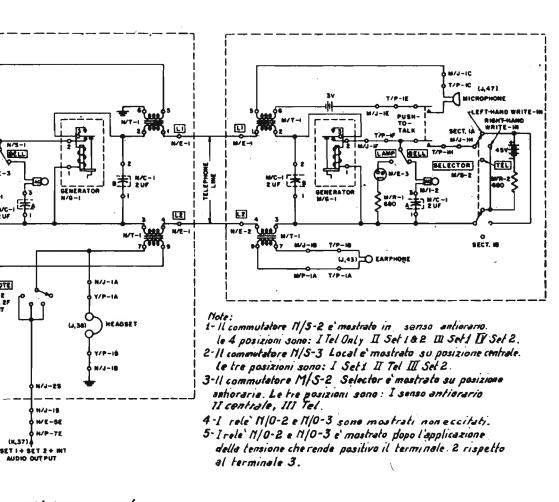


Fig. 83-Circuito elettrico. Comando



a distanza AM/GRC-6

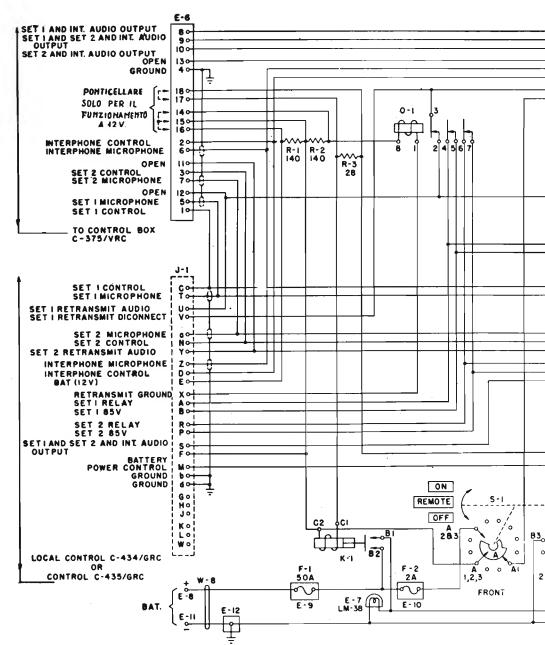
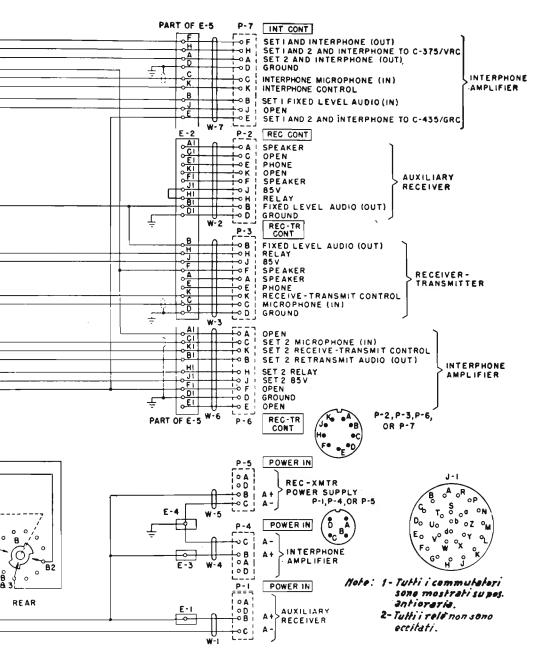


Fig.84 - Gircuito elettrico. Base di mo



ntaggio MT-297/GR.

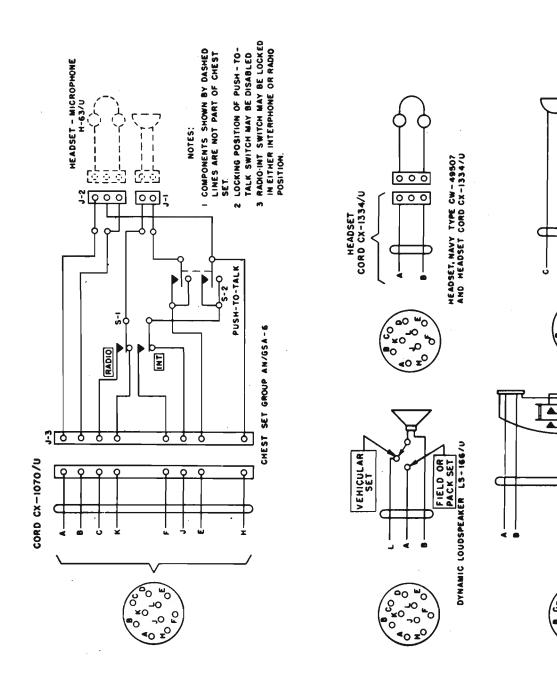




Fig. 85. AN/GRC\_ Circuiti elettrici degli accessori di B. F.

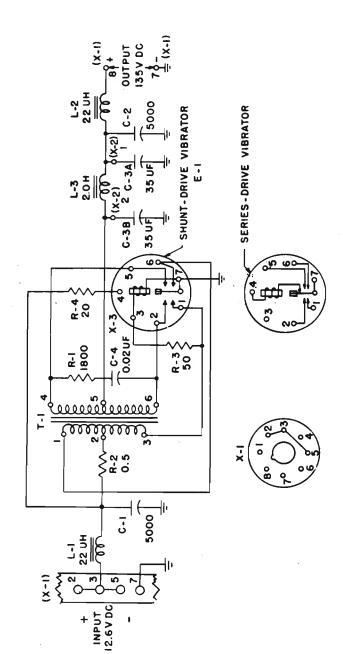
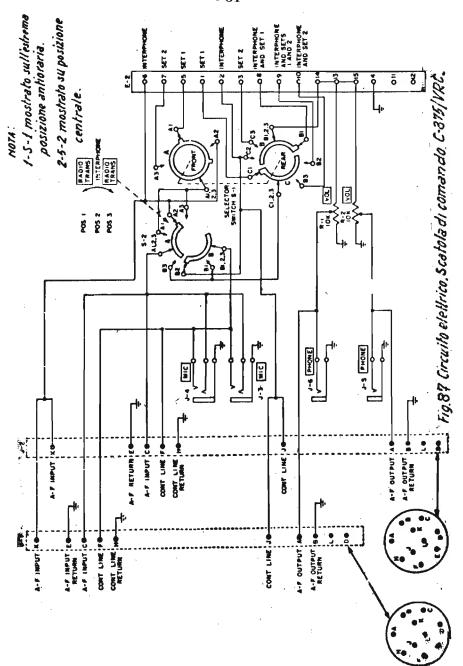


Fig 86-AN/GRC. Circuito elettrico dell'alimentatore PP-281/#RC.



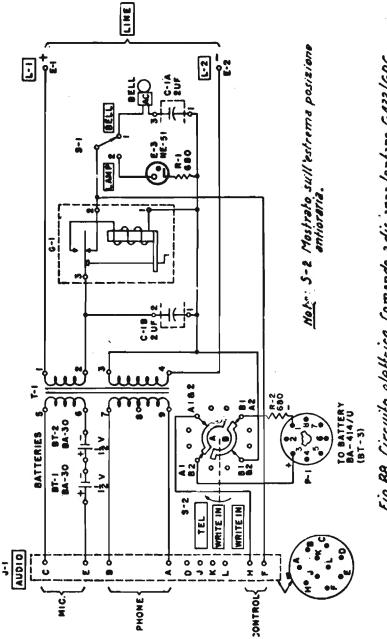
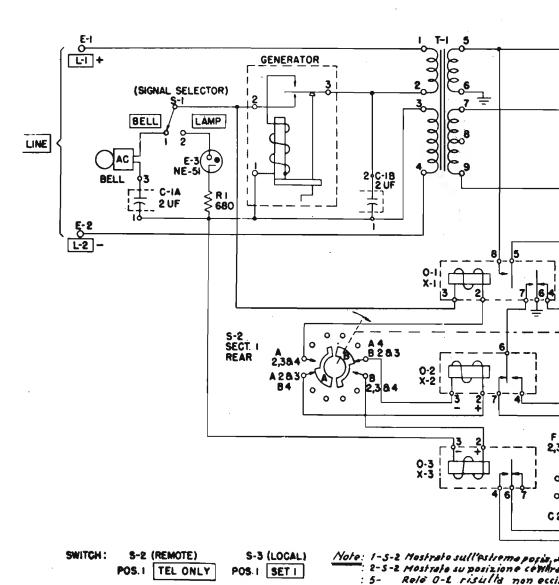


Fig. 88. Circuito elettrico. Comando a disiansa lontano C433/GRC.



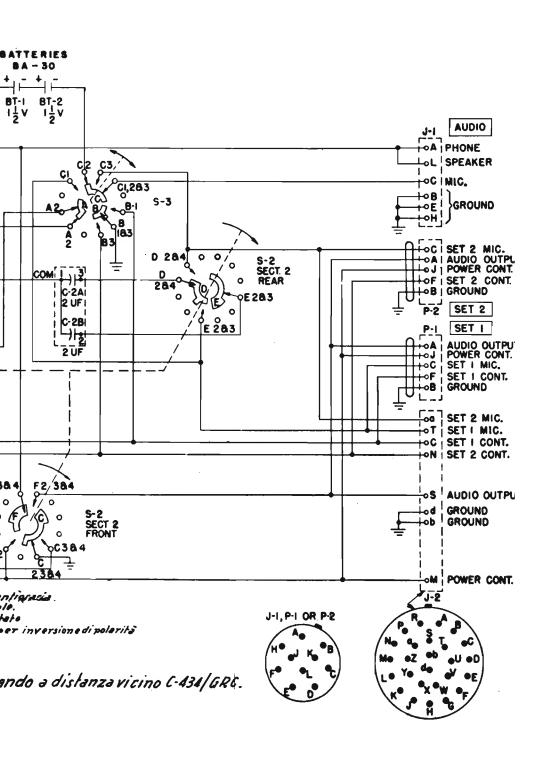
POS. 2 SET 1 82 POS. 2 TEL

POS. 3 SET 1 POS. 3 SET 2

POS. 4 SET 2

Fig.89-Circuito elettrico. Como

Rele 0-2 e 0-3 funzionano;



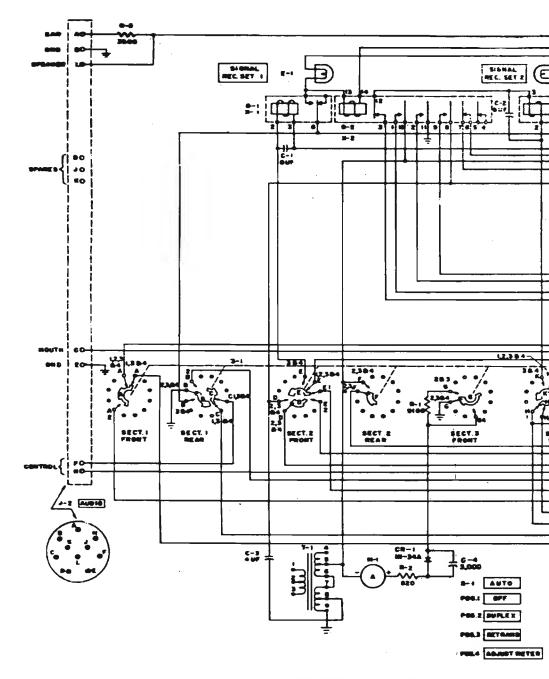
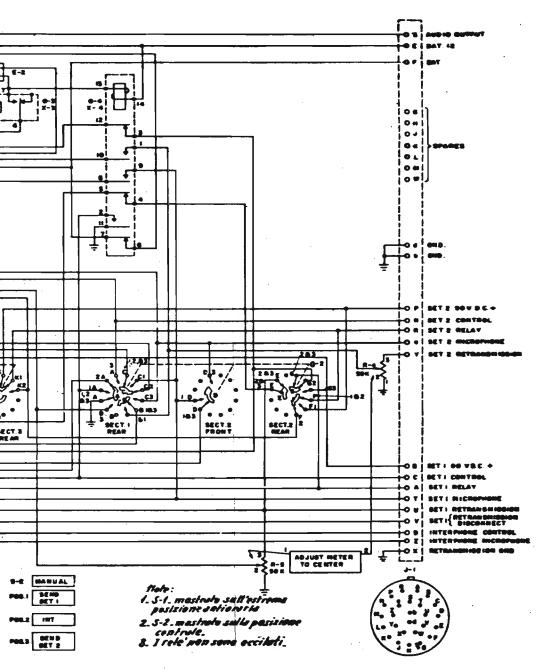


Fig. 90-Circuito elettrico. Comundo di ri



itrasmissione in duplice C-435/GRC\_

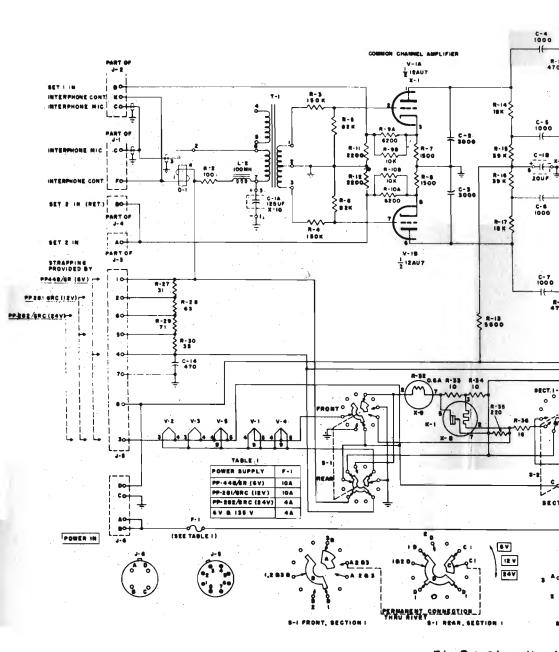
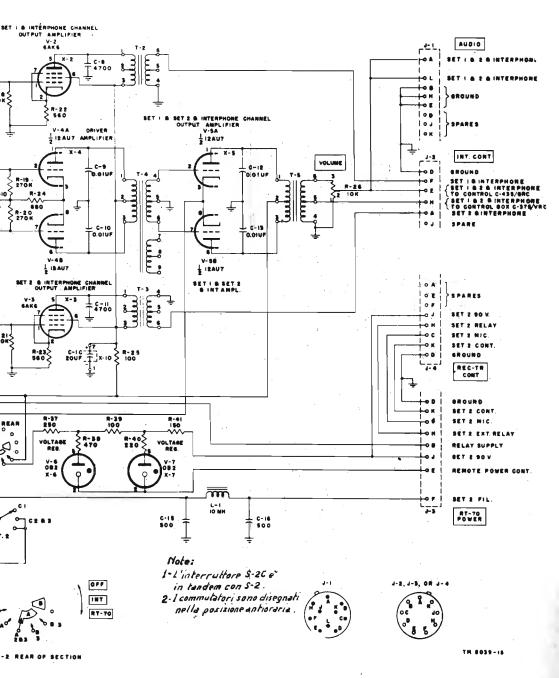


Fig. 91-Circuito ele



ettrico Amplificatore interfonico AM-65/GRC.

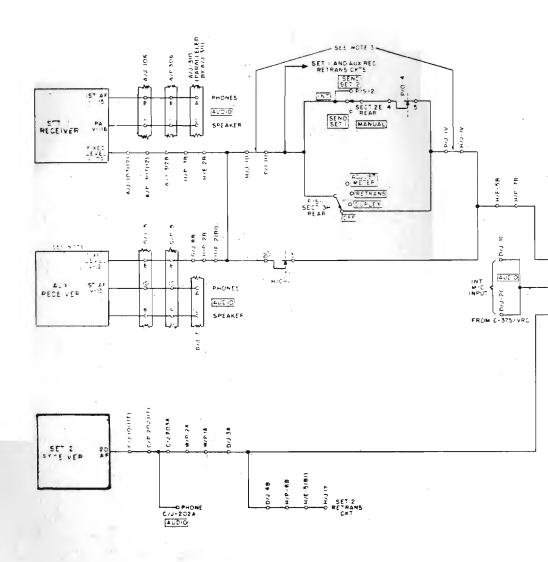
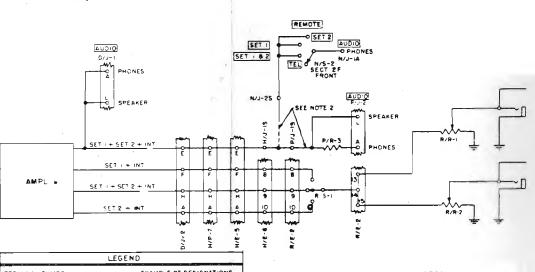
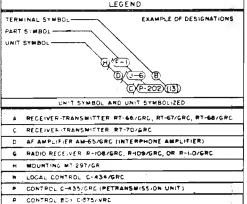


Fig. 92-Circuiti d'escolto delle stazioni ,

## NOTE:

- 1 Il ricevitore ausiliario è usato solo con le AN/GRC -3 - 5 - 7.
- 2 La linea tratteggiata indica come il C-434 è collegato al MT-297; la linea continua indica come il C-435 è collegato al MT-297.
- 3 Le linee tratteggiate indicano i collegamenti del C-435, se usato



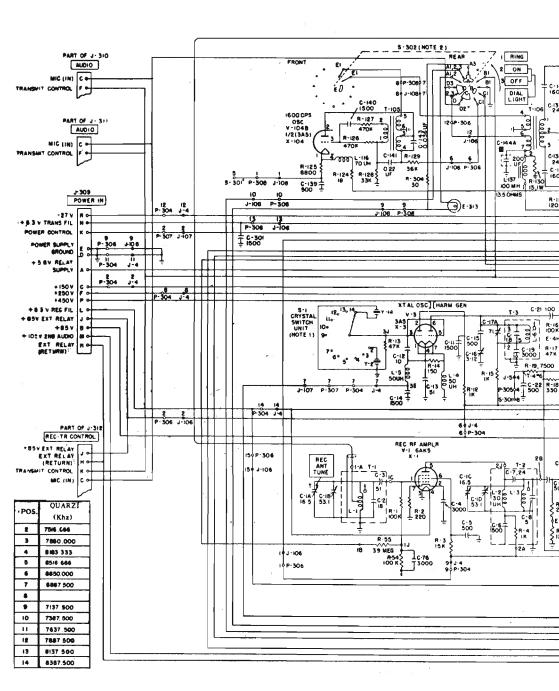


NOTES

- THE AUX RECEIVER IS USED ONLY WITH RADIO SETS ANGRE-3.-5 AND -7
- Z THE DASHED LINE INDICATES HOW THE LOCAL CONTROL CHARAGE GET COMMECTS WHEN SLID INTO MOUNTING THE SOLIS LINE SHOWS THE CORRESPONDING CONNECTION FOR CONTROL CHASE GRO CONNECTION FOR CONTROL CHASE GRO
  - 3 DASHED LINES INDICATE CONNECTION WHEN CONTROL 6-435/GRC 5 USED

17/GRC-3-8.

# COMD CX-12/3/U



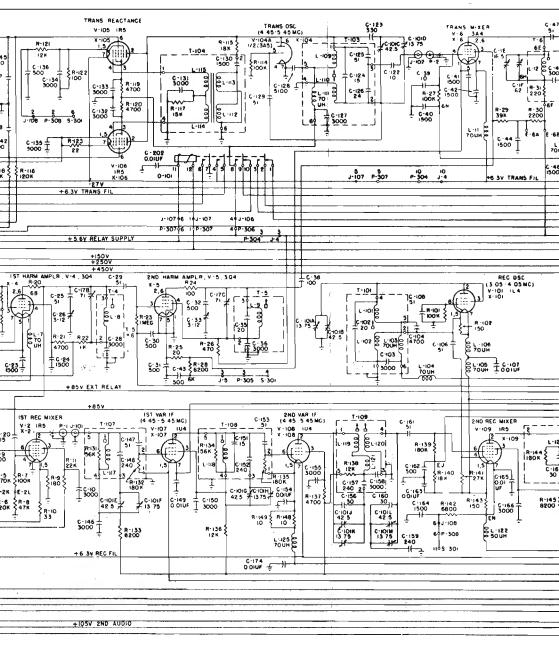
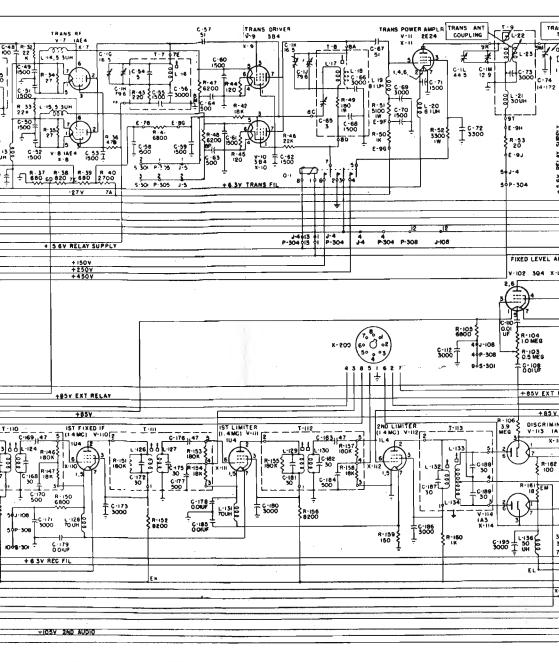
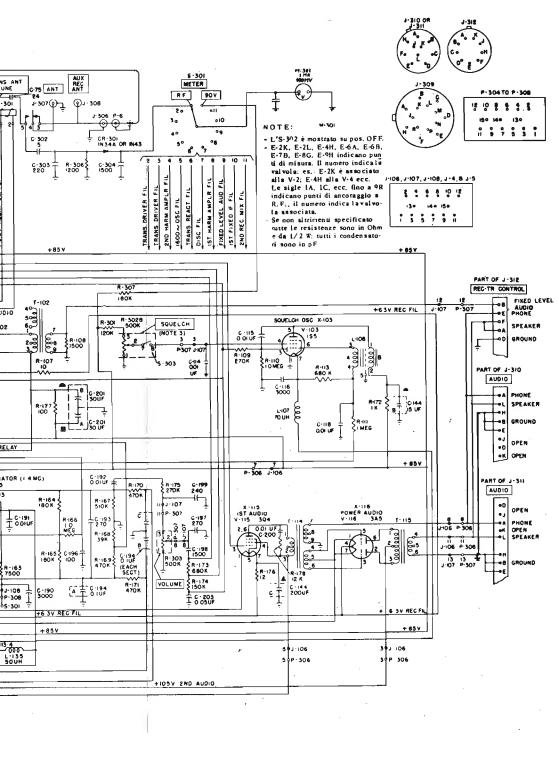
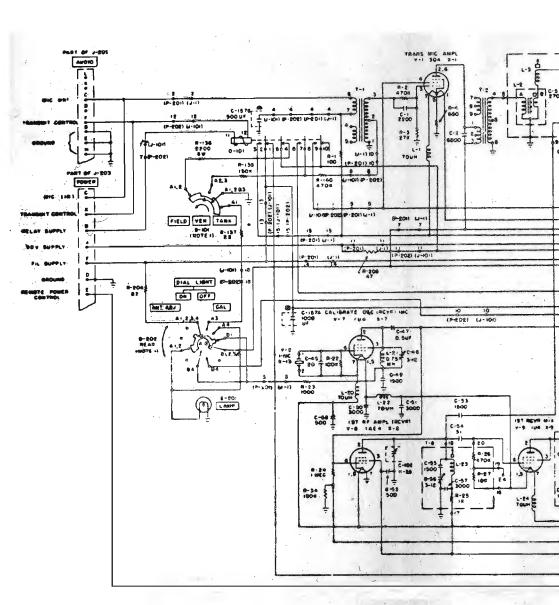


Fig. 36 - CIRCUITO ELETTRICO DI



L RICETRASMETTITORE RT-67/GRC





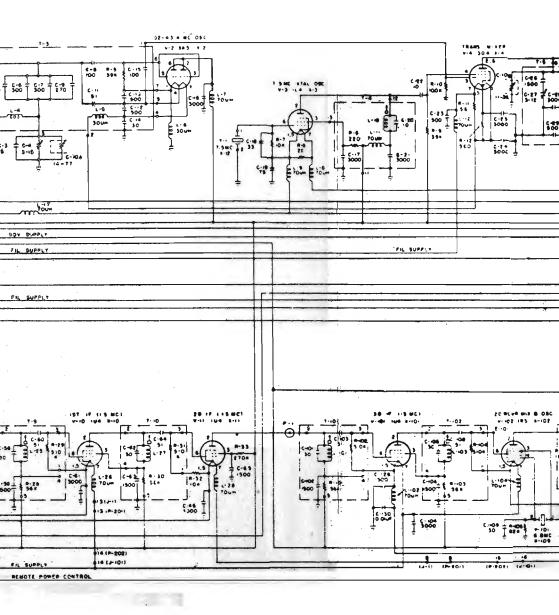
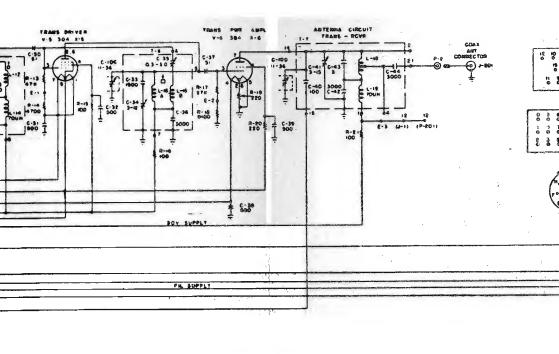
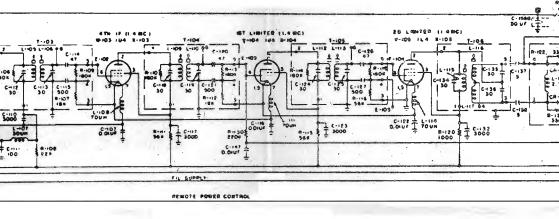
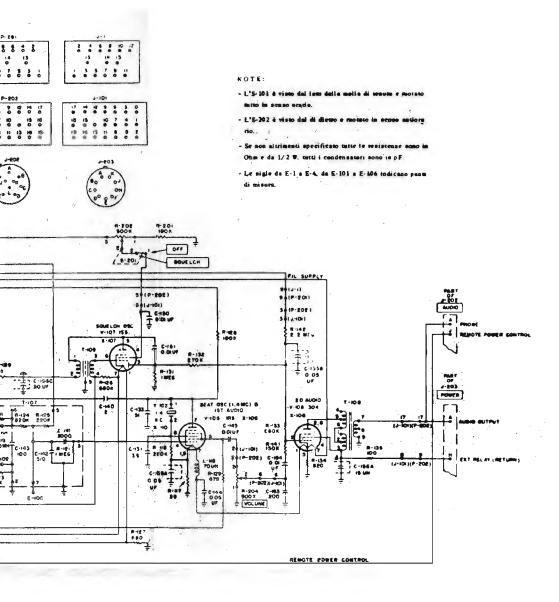


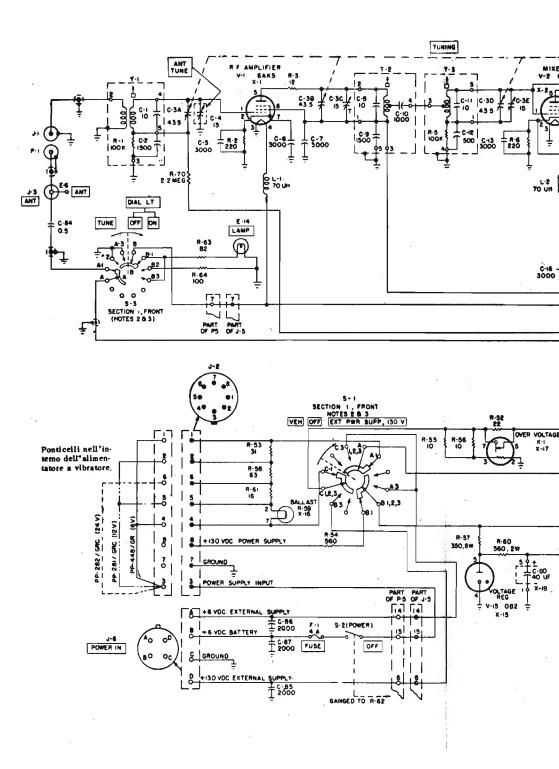
Fig. 37 - CIRCUITO ELETTRICO DEL RICETRA





METTITORE RT-70/GRC





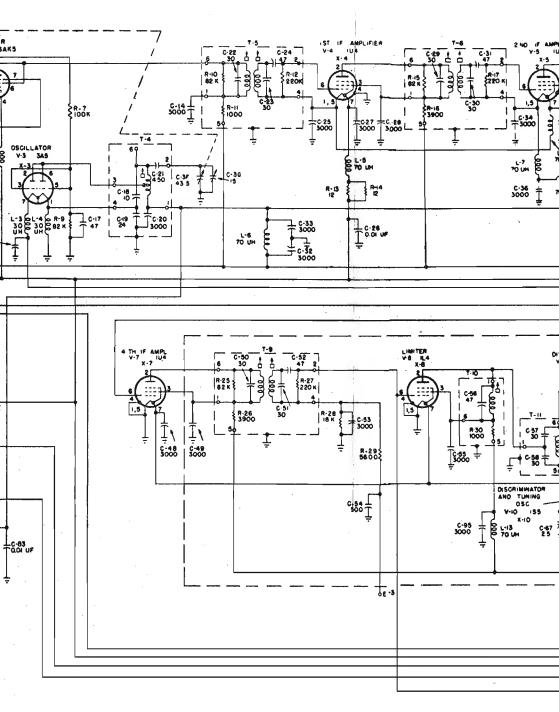
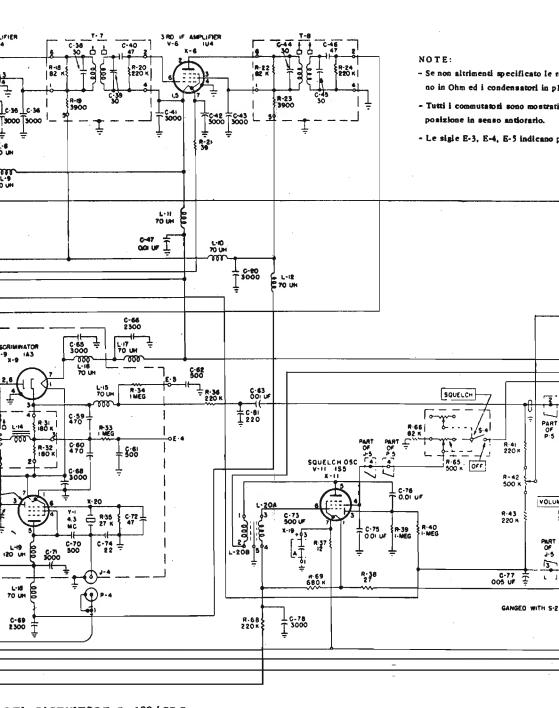


Fig. 38 CIRCUITO ELETTRICO



DEL RICEVITORE R-109/GRC

